

THE MANKIND QUARTERLY



AN INTERNATIONAL QUARTERLY JOURNAL
dealing with Race and Inheritance in the Fields of
ETHNOLOGY · ETHNO- AND HUMAN GENETICS
ETHNO-PSYCHOLOGY · RACIAL HISTORY
DEMOGRAPHY AND ANTHROPO - GEOGRAPHY

Volume 1, No. 2-4 - 1960/1961

SWETS & ZEITLINGER N.V. - AMSTERDAM - 1971

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Editorial

THE FIRST NUMBER of this new journal has been extremely well received. Many communications have come from all over the world expressing pleasure that a journal has been produced which, while it may be concerned with the sociological and cultural aspects of mankind and its development, considers all this in relation to the hereditary nature of man and of the races into which he is divisible.

A few abusive letters have, however, also been received, although their numbers are negligible in comparison with those which have expressed pleasure at the production of THE MANKIND QUARTERLY. Whatever the status of the writers of these letters, they can be considered little better than cranks. Among them are some extreme *racialists* who, apparently, consider that any intelligent exposition of race is ineluctably bound to destroy the racial integrity of mankind, and also, some extreme *a-racialists* who hold the view that any discussion of the hereditary nature of man, and the racial subdivisions into which mankind falls, is tantamount to an offence against morality, and should be suppressed with fire and faggot! The fact that neither of these extremes has been satisfied at the appearance of this journal, while at the same time we have received so many communications from eminent people in all parts of the globe, would suggest that not only is the appearance of THE MANKIND QUARTERLY timely, but also needed, in order to play its part in educating a generation in the facts of anthropology and heredity which have hitherto been too long neglected, or in some cases deliberately suppressed.

We must thank those journals (such as *The Eugenics Review*, to mention one only) which have so kindly welcomed the appearance of this journal.

World Population

PART II

By SIR CHARLES DARWIN

Food Supplies

The next question is how these five billion will be living. In the first place it has to be recognised that at the present time more than half the world are under-nourished. Even if food were freely transportable from parts of the world where there is a glut to the other places which are short, there would be nothing like enough for all, so that we anyhow have every inducement to enlarge the scope of all our agriculture. The agriculturists maintain that it should be possible, going on lines already known, to double the amount of food that the world could produce. All the time there is going on a steady improvement in the breeds of food plants, and this we can confidently say will continue. Then there is great scope for the development of irrigation works, such as the Aswan Dam in Egypt. This will call for great supplies of capital, but there again we do know how to go about the matter. We can feel then that it is not at all unreasonable to expect that fifty years hence the world can produce twice as much food as it does now, but this can give us little comfort, for it will mean that more than half the world will still be hungry at the end of that period, and there will be twice as many of them.

I have said nothing about wholly new possible resources that might be developed. Thus three-quarters of the earth's surface is occupied by the oceans, and sea fisheries, which are essentially still only a hunting economy, only yield a very small fraction of the total human diet. Could the oceans not be exploited? We do not at present know even how to go about this in a way that is more efficient than our present use of fish or whales as middlemen in exploiting the rich ocean plankton. It would seem likely that if the oceans are really to provide a diet for say a billion people—and anything less than this would not be important—the only method of doing so would be by means of vast numbers of ships working at sea in some way all the time, and it is hard to believe that such a transformation can come about within fifty years, when we do not as yet even know how to start it.

Much the same is true of another possibility, the direct chemical synthesis of food in factories. There are a few, but much too few promising signs about this. Thus a project has recently shown promise of turning grass into human food. This

is a thing that we do now by grazing oxen on it, and then eating the beef, but even if a field of grass could produce five times as much food as it does through the beef, that would not seriously alter the total food supply of the world. We have hardly yet begun to do this kind of thing, and it is impossible to believe that it can make any fundamental difference to food supplies fifty years hence.

It is eminently right for us to consider the prospects of increasing our food supplies so as to match the increasing numbers, and the efforts to do so should increase with all possible energy. But it is really questionable whether this is basically the right way round to regard the whole subject. Man is an animal, and even though he may be a very special kind of animal, he has in the past obeyed one of the laws that govern all animal life. This is that every generation breeds too great a number for the next generation, and the struggle for life then reduces that excess number back to the original number. In fact it is not the number of animals that determine the food, but conversely it is the food supply that determines the animal population. This is a quite universal law among animals, and it has usually held for human beings too, with the exception of a few rare periods of prosperity like the present one, when slow-breeding man has taken a little time in multiplying up to his possible numbers. May it not be a more fundamental way of regarding the subject to say that whatever food we may succeed in producing there will always be too many mouths asking for it? For example I have heard that an expert on these matters explained that the new Aswan Dam was quite essential so as to provide food for the hungry millions of peasants in Egypt, but he added that twenty-five years from now they would be just as hungry as ever, only there would be a great many more of them.

This way of looking at the matter provokes a thought about the present condition of the world as it is viewed by students of world politics. Some of them say that at the present time the prosperous countries are getting richer, and the less prosperous ones poorer all the time, and this in spite of the efforts being made by the rich ones to raise the level of conditions of the poor ones. It is at least arguable that this is not a fair statement, but that all are getting more prosperous, only very unequally so. Thus, what is likely to be the first thing which happens to a poor country when it receives a benefit from a rich one? The first thing that will surely happen is that many people who would otherwise have died will now survive, and in doing so they will strain the food resources of the country. It may sound a paradox, but is it not possible that the first sign of growing prosperity would be increas-

ing hunger? However that may be, it would surely be wise, when the under-developed country is receiving succour, to insist that an essential condition be that it should take steps to prevent the increase in its numbers. Unfortunately no one seems to know how to make such a condition effective.

Technology

In the general question how the five billion people will live, it is now of course not enough to think only of food supplies because many other things are required to make possible the industrial life in the great cities which will be inhabited by a very considerable fraction of the five billion. They will need iron and copper and many other minerals, and if these were to go seriously short the great cities would become impossible. I shall not consider this subject in detail. The central problem, the supply of energy, used to be regarded as the most formidable threat of all against our present way of life owing to the reckless way we have been using up our coal supplies, but there is good promise that atomic engines, using radioactive energy, will replace coal, and as far as we can judge the fuels for these engines will last at all events for some thousands of years.

As to other minerals, they are the capital supply of the earth, and once expended they are not replaced. Here is a rather startling fact that is not as well known as it deserves to be. For many centuries man has been a miner, and he has taken out of the earth great quantities of a great variety of ores. With hardly an exception for any type of ore, more than half of the total amount he has extracted has been taken out during the past thirty-five years. If extraction continues at the present pace there would then seem a danger of the exhaustion of some of the minerals. However, this need not perhaps cause extreme alarm because there can usually be found substitutes through the skill and ingenuity of our engineers. For example it may be that soon copper will be getting into short supply, and we might have fears for the electrical industry, for which this metal is now indispensable. But an electric generator could be made using aluminium instead of copper at the price of a great sacrifice of mechanical efficiency, but the loss of efficiency could be carried by the greater availability of energy which we may hope will be supplied by the atomic engines.

In the light of all past experience we may expect that many formidable difficulties will be found in the development of these technologies, and it is of course impossible to see what will happen. But it would appear that these things are likely to give less trouble to the maintenance of our ways of life than will the supply of food.

The Far Future

Some people may be content with a forecast for the next fifty years, but many of us want to look further into the future too, and to make conjectures about what the world will be like when the present explosion of population has ceased, as cease it must some day. Thus if there are to be five billion people fifty years hence, what is to prevent another doubling of our numbers in the following fifty years? And if by our skill in invention we could solve the problem of feeding these ten billion, would they not grow into twenty billion fifty years later? In other words, no matter what we can do in the way of providing for these increases, the explosion has simply got to stop within the next century or two, and it is interesting to consider what life will be like when it does stop.

In the old days the increases were checked by the struggle for life whether between individuals or communities, and this struggle was perpetually reducing our numbers back to something like constancy. This meant that life was much harder than it is now, and it in no way gave the men of those days the easy-going prosperity which many people now seem to think that mankind has a right to expect. Is there any hope that by conscious action man can so control his numbers that some of this prosperity may be preserved, or are we doomed to sink back into control by the ruthless operations of the struggle for life, which is otherwise inevitable?

Every species of the animal kingdom has developed through the operation of Natural Selection, which is to say that in each generation it has tried to increase its numbers but then the less efficient members of the next generation have not survived the struggle for life, so that the total numbers have not increased. By the survival of its more efficient members each species has very slowly changed its form and so has become fitter for survival. From the study of fossils we know that things have been going on in this way for five hundred million years, and no one doubts very much longer, though the creatures of the earlier periods were soft-bodied and so have not survived as fossils. The operation of Natural Selection has been slow and irregular, but in this vast period it has produced such wonderful instruments as the eye of the hawk and, most wonderful of all, the human brain.

All the qualities of every animal until recently were evolved in this way, but something quite new happened with the evolution of man, because he has succeeded in breaking through the laws of inheritance which govern all other animal life. Animals behave as they do because they have inherited all their qualities from their parents, but we can change our ways of life by communication with

our fellows. For example the first invention of agriculture can only have been made by rather few individuals, but their action was then copied by all their fellows, so that the whole race benefited from the discovery; this is a thing that has never happened in the case of any other animal.

Again our scientific revolution is due originally to very few individuals, and indeed it would almost be impossible to give a list of their names, yet it is this revolution that has produced the present explosion of our numbers. It has done much more than this too, because through our deep understanding of nature, we can now to a large extent control the rest of the living species of the world. It is not an exaggeration to say that man is now the master of the world, so that no new species could rise and conquer him, in the way the fossil records show us that previous masters were conquered. This is because we could see the threat coming and dispose of it before it became serious.

We can continue to master the world, but subject to one condition: that we can master ourselves. Can we hope in this matter consciously to control our numbers, so that we may retain something of our present ways of life, or are we destined to sink back so as again to come under the ruthless control of Natural Selection? There is not much time for us to discover how to avoid this lapse, perhaps not more than a couple of centuries, and the prospect is not encouraging when we reflect that nature's method, even though slow and often inefficient, has been worked out during more than five hundred million years.

What humane method can we devise that will limit our numbers? In view of the strength of human instincts it seems useless to impose restrictions on the sexual act, for this would merely place a premium in favour of those who broke the restrictions. Happily there seems no need to work in this manner because of the developments of birth control. These are still very imperfect, but they do seem the best hope we have for cutting down the increase. If we cannot do it in this way, can we escape having to practise abortion or even more extreme measures in order to mitigate the continuous struggle for subsistence between grown men? We have, of course, to recognise that some methods of birth control are prohibited by certain religious doctrines, and this lowers the prospects of success. These matters of doctrine claim to derive authority from theological principles, and so cannot be evaluated by those who do not accept those principles. All that can be said is that their acceptance would tend to accelerate the speed at which the prosperity of the human race is likely to deteriorate.

If we were required now immediately to develop methods of

limiting our numbers, a great improvement in the practice of birth control would seem to be the only thing we could propose. But it has to be recognised that in the long run it is unlikely that it could do more than delay the relapse. To see this, consider a very much over-simplified situation. Imagine that the problem of limitation has been solved and that half the world has adopted it, so that this half continues to live in a life of comfortable prosperity. It does not matter what the solution may be, whether birth control, or a restriction in the number of children any parents may have, or even something quite novel of a kind nobody has yet thought of. The other half of the world however refuses to accept the limitation. Again it does not matter what their motive may be. It might be a religious doctrine, or it might be a preference for a more crowded world, or it might be sheer stupidity. What will happen? The limiters will continue to enjoy their prosperity for a time, and the non-limiters will have a continually hardening life on account of their increasing numbers. They will often suffer from famines, but in spite of this their numbers will grow, and at the end of fifty years, or perhaps a century, there will be twice as many of them as of the limiters. 'In another fifty years or century there may be four times as many, and their jealousy of the prosperous minority will induce them to try and conquer the limiters. It is difficult to believe that, with their much greater numbers trained to a hard life, in the long run they would not succeed in doing so, especially since it must be noticed that from the present point of view a conquest from below, by the provision of unlimited cheap labour, would be just as effective as conquest of the usual kind. It seems likely then that in the long run man will not succeed in mastering himself, but that our life will relapse into the hard conditions imposed by Natural Selection.

I have set out these depressing conclusions in the hope that they may stimulate thought on the subject, and that some new idea may arise which will overcome them. But in conclusion I would say that I think we must remember that the solution we would hope to achieve would aim at prosperity, and this is not the same thing as happiness. Even if we find that the world has relapsed into the old way of survival by Natural Selection, it is not evident that the individuals will be unhappier than we are now. This may be judged from the literature of the past which has survived to us. Under the rule of Natural Selection the people of those days were leading lives of incomparably less security and comfort than we have now, but their surviving writings do not for the most part seem to show unhappiness. So I believe that in the long ages to come our descendants will continue to enjoy the great adventure of life.

AUSTRALOID TRIBES IN INDIA

By R. RUGGLES GATES

The Australian aborigines are well known to have certain distinctive features. The most marked of these, which characterize the race and render them perhaps the most primitive of modern races in an evolutionary sense, are the heavy brow ridges (though not forming a continuous torus, as in Neandertal man), the very depressed root of the nose, and the sunken orbits. It is worth noticing that in the Ainu the supraorbital ridges are even more conspicuous in the massive male skull but are generally absent in the female (Gates 1956), so that Ainu skulls are easily sexed. On the other hand, in Australian female skulls the brow ridges are often present and skulls with marked brows may have very small mastoids, so that some Australian skulls are difficult or impossible to sex. But the Ainu have a relatively high and narrow nose of near-European type, yet the former body-covering of long, black hair renders them most primitive of all races in this respect.

We must conclude that the Australians and the Ainu have a certain amount of common ancestry, but where or when their lines of descent diverged cannot be determined at present. It seems probable that the Neandertal man, like the Ainu, was formerly as hairy as a chimpanzee. But the Ainu have an essentially white skin like Caucasians. The Australians so nearly resemble archaic Caucasoids that the two races (Caucasians and Australians) must be regarded as nearly related, especially as much of the Australian skin colour is found (Gates 1960) to be due to tanning, while a single main gene and a minor one (corresponding with our brunet skin) will account for the presence of the melanin coloration. We may then suppose that the Australians acquired their skin colour by mutation from white ancestors as a protective effect in a tropical climate, while the Ainu (with white skin) retained the primitive ancestral hair covering, remnants of which remain on hairy chests of many Caucasians.

The Australians find their natural ancestors in the Neandertaloids of Mount Carmel, and later in certain skulls unearthed

at Mohenjo-daro, representing the track by which they originally entered India. They must afterwards have multiplied in large numbers in the Indian subcontinent, for many Australoid tribes are still found in Central and Southern India. It is probable that they were pushed South after the Australian ancestors "escaped" via Burma and New Guinea to the Australian continent.

Anthropologists have generally believed that the Australian race were derived from Australoid elements in the population of India. As they have probably occupied Australia for some 10,000 years (Gates 1960) their ancestors must have left India perhaps 20,000 years ago. With ideas such as the above in mind, it was decided to make a reconnaissance of Australoid tribes in India to see how these modern Australoids compare with the present Australian aborigines. For this purpose a grant was received from the Royal Society for travel expenses.

To give even a general survey of the Australoid tribes in India would require a book. Many books have been written about particular tribes. In culture they range from nomadic hunters and gatherers, like the Asurs in the mountains of Bihar (east Central India) to the Badagas in the foothills of the Nilgiris of Southern India, who have long been farmers, and the Todas, a remnant only distantly related to the others. The latter are a pastoral people who utilise the milk but not the flesh of the buffalo. Their ancient rituals and priestly rites regarding the processes of milking and cheese and butter making are so old that the original meaning of the ritual words has been lost. They with the Kotas, a related tribe, were probably intruders into Southern India from the northwest, but Rivers (1906) thought they probably migrated to the Nilgiri hills from the low coastal lands of Malabar. They are essentially Caucasoids and are the aristocrats of that region, doing no labour in the fields, while they are in the relation of overlords to the Kurumbas and the Badagas, who pay them in grain for use of the land and recognise their higher status. The Bahima, who bear a similar relation to Bantu tribes of Central Africa, are believed to have come from north-east Africa a thousand years ago. Transfer from the hot plains to the cool climate of the Nilgiri hills, if it took place, could not account for the much higher and ancient type of culture which the Todas show, totally different from that of jungle tribes.

With their long black beards, the Todas look like Biblical patriarchs, to whom they may perhaps have a racial relationship, but they do not have the overhanging nasal tip of the Semites or the Papuans. On the other hand, they have quite marked brow ridges but are not Australoid in general appearance. They will be studied in more detail in a later account.

The conditions of all the jungle tribes or hill tribes of India are undergoing rapid change. The Asurs in Bihar are becoming shifting cultivators. The Birhors, who live on the plains at the foot of the forested mountains in Bihar, have recently been transferred to primitive houses arranged in a village, these houses having attached sheds for the cattle and goats. They are in this way considerably advanced in status.

The Oraons, Santals and Kols of Bihar have markedly Australoid features and will be considered later.

Gonds occur in large numbers in Central India. Of their various tribes, the Marias and Murias of Bastar are regarded as nearly related. They frequently have more or less thickened and everted lips, not however the same as the Negro. Some also have frontal bosses, which are regarded as Negroid. The origin of these conditions, which also occur in other parts of Asia, requires investigation.

A fuller study of the Muria Gonds will be made later. Verrier Elwin has made extensive observations of their village life and mythology.

We pass now to Southern India, with my wife, whose aid was invaluable in recording measurements as they were made, but also



FIG. 1



FIG. 2

taking coloured photographs of individuals and the conditions in which they lived. The Nilgiri hills of Mysore have long been famous for the remarkable variety of racial types they contain. Many of them are remarkably diverse from each other, yet they all in varying degrees possess Australoid characters. Their

diversity results from different degrees of emphasis on such features as the brow ridges, sunken orbits, depression of the nasal root or width of nostrils and general shape of the nose. Practically all are mesocephalic.

The first of the tribes of the Nilgiri plateau we will mention are the Kurubas or Kurumbas (Fig. 1). Attempts to distinguish between tribes bearing these two names appear to be unsuccessful. Four different groups of Kurubas were studied. Those in the native villages have very wild and unruly hair, while those who work in the teak forests with elephants, logging timber, have been subjected to the barber and look much more civilized, but of course this change is superficial. In Kurumbas the brow ridges are slight in the male and generally absent in the female. The orbits are but little sunken, the nose relatively narrow and only half-depressed at the root. Their features are relatively small and many are not really Australoid, and in stature the males exceed but little the dwarf limit of 150 c.m. Personal observations lead me to class them with the Kadars, who are a disappearing tribe of similar stature in Cochin but with hair more curly than other jungle tribes. The Kadars are frequently classed as Negritos because of their short stature and frequently very curly hair. The problem of the Negritos in south-eastern Asia will have to be considered later.

Todas of the Nilgiris have already been referred to. The Kotas (Fig. 2) are evidently an offshoot from them, probably within recent centuries. They now live in areas where the hillsides are covered with tea plantations, and are apparently being transformed into a Hindu caste. They interchange visits with the Todas. In their heavy black beards and in other features they resemble the Todas, also wearing the same toga-like garment which is the costume of no other tribe in India.

The Irulas are another Australoid tribe of the Nilgiris. Only a few were seen, but they differ visibly from other tribes and will be discussed later.

A tribe less known, or at any rate less heard of, is the *Kurichiars*. We saw them in Wynnaad, a taluk or sub-district of Cannanore District, about 70 miles from Calicut on the west coast north of Malabar. Some of them live in bamboo huts about six miles from the town of Mannantoddy and hunt small creatures with bow and arrow. The arrow is about five feet long and has a heavy iron tip. The meat is eaten nearly raw, the animal being held briefly over a flame from burning sticks. They also grow rice, which was drying in the sun on the ground in front of the hut.

Eight Kurichiar men had a mean stature of 158.06 cm. and four women 144.3 cm., indicating an unusually large difference

of the sexes in height. The photograph (Fig. 3) shows the characteristic features, the man holding two arrows in his right hand and a bow in his left. The women (Fig. 4) are much more coy and relatively civilized looking. These people will be more fully described later. The nose is not much depressed at the root,



FIG. 3



FIG. 4

but the broad tip tends to overhang (compare the Papuan nose) and the eyes are sunken. Some have marked brow ridges, the hair being "wild" and often very curly.

A few Adiyars were also examined in this district. Hair samples were collected from several tribes and sent to Dr Kenneth Oakley at the Natural History Museum in London for study. The Paniyan (pl. Paniyar) of the Wynnaad plateau are much better known. They are certainly related to the Kurichiar but differ markedly in certain features (Fig. 5). The nose, in particular, is much more massive (cf. Fig. 3), less triangular in form, and the tip does not overhang but shows the nostrils from the front. The orbits are deeply sunken, the hair often very curly, and the mean stature of 15 men was 152.8 cm.; considerably less than the Kurichiar. The very significant work with the Paniyar and other tribes of Southern India on blood groups and the sickle cell gene will be taken up later in this series.

We will finally mention the Kanikar, a tribe living farther south, in Travancore. Measurements and photographs were obtained of 14 male and 7 female Kanikars at a place called Chettiampara near Parandode in Nedumangad taluk, about 25 miles north-east of Trivandrum. The stature was intermediate

between that of the two previous tribes (154.68 cm. for 14 men). Full statistical treatment of these and other measurements will be published later. The hair ranged from very curly to almost straight (Fig. 6) and the nose approached that of the Paniyan but less massive, generally with distended nostrils. There are at least



FIG. 5



FIG. 6

four groups of Kanikar within 50 miles of Trivandrum, the capital of Kerala, which includes the old states of Cochin and Travancore. For transportation and other assistance we were indebted to Professor A. Abraham, Professor of Botany at the Kerala University in Trivandrum, who arranged for the Government car. We were also accompanied by Mr V. N. R. Panicker, Tribal Officer in the Department of Harijan Welfare in Trivandrum, as guide, and by Mr Balakrishna, Publisher for Kerala University, who has written 35 books in Malayalam.

This cursory outline of Indian Australoids will be followed by more detailed accounts of them in relation especially to the problem of the origin of the Australian aborigines.

CORRIGENDUM

Vol. I, No. 1

Page 69, line 22: for 'evrisomatic,' read 'eurisomatic.'

SENSITISING ANTIGENS AS FACTORS IN BLOOD TRANSFUSIONS

THE COMPLICATING FACTOR OF AN ANTI-KIDD
(Jk^a) ANTIBODY

IN A PATIENT WITH MYXOMA OF THE LEFT AURICLE
UNDERGOING OPEN-HEART SURGERY

by

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From

The Departments of Surgery and Pathology,
College of Physicians and Surgeons

Columbia University

and the Surgical Service of

The Presbyterian Hospital in the City of New York

Read by Dr Gorman at the Twelfth Annual Meeting of the
American Association of Blood Banks, Chicago, Illinois
on November 6, 1959.

SENSITIZING ANTIGENS AS FACTORS IN BLOOD TRANSFUSIONS

The transfusion of human blood from donor to recipient firmly established by the original, and now conventional ABO blood groups of Landsteiner (1, 2) was made even safer by the discovery of the Rh system (3), (4). With this recognition came the realization of blood being a living tissue: transfer from one individual to another constituting a form of homologous tissue transplant with all its implications of sensitization and rejection phenomena.

Nine major blood group systems have been described to date, some twenty "family or private" and "Public" systems have been documented. The antigenic factors within these groups and systems vary in strength; individual recipients differ widely in their capacity to produce corresponding iso-agglutinins. We know far too little about the laws governing these responses to become complacent concerning the safety of the second transfusion. Accordingly, more than the conventional grouping, typing, antibody screening, and proper cross-matching must be given serious consideration to assure the safety of subsequent transfusions.

Blood antigens, known and unknown, may sensitize the patient, and, under special circumstances cause both serious transfusion reactions and complications in succeeding pregnancies. These antigens can no longer be overlooked; many can now be identified with available potent testing sera; other antigens exist but testing sera of standard avidity are either in short supply, or unavailable.

Geneticists recognize the distribution and frequency of these blood group antigens to vary both in ethnic and in racial groups. In a population of diverse ethnic origin, the probability of sensitization either by gestation or blood transfusion is increased.

The manifestations of transfusion reactions in the sensitized patient vary widely: death from anaphylactic shock may occur, though rarely; more commonly, acute urinary suppression may follow the rejection and sudden hemolysis of the injected blood, terminating in diuresis followed by recovery or death. Jaundice is an early manifestation; its degree and persistence unpredictable.

Even when the recipient apparently accepts the foreign blood, he may reject it suddenly within one or two weeks as evidenced by a systemic reaction, elevation in temperature, fleeting jaundice and acute anemia. In explanation, the "anamnestic recall phenomenon" is invoked. His immunity thus negates the therapeutic value of the recent transfusion.

Sometimes the host's erythrocytes may be injured by an hemolytic component in the donor's plasma. This may lead to

a rapid shrinkage of the circulating red cell mass, constituting an effect similar to a massive concealed hemorrhage. Today, however, with the newer screening and cross-matching tests for antibody detection, this phenomenon is rare.

Sensitization in the female, a double-edged sword, may result from a previous transfusion. In fact, Levine's discovery of iso-sensitization stemmed from an analysis of a severe, non-fatal, transfusion reaction in a mother (Group O), who, at the time of delivery of her second infant was being transfused with her husband's blood (Group O). Dr Levine deduced that this wife had been immunized during her first pregnancy by some factor in the fetal red cells inherited from the father, which she lacked.

In 1940, Landsteiner and Weiner by injecting Rhesus Macacus *indicus* red cells into guinea pigs and rabbits (5) established the Rh blood group system. The specificity of the antibody discovered by Levine (3) in humans proved to be the same.

Decreased fecundity or parity may ensue in the female inadvertently sensitized by either blood or plasma transfusions, intra-muscular injections of blood, or through a pregnancy if the husband carries the gene in single or double dose form, similar to, or the same blood antigen which sensitized his wife. Subsequent conceptions inheriting the offending antigen may be destroyed in utero provided the maternal hemo-iso-agglutinins can penetrate the placental barrier and coat the fetal red cells. This maternal rejection of the affected fetus constitutes one cause of spontaneous abortions, miscarriages and stillbirths.

Erythroblastosis foetalis, hemolytic anemia in the newborn caused by this same iso-immunization phenomenon, is classed as a milder form of the host's hostility. Levine, Katzin and Burnham (6) demonstrated that the infant, jeopardized in utero by such transfer of the antibodies, is either jaundiced at birth or rapidly becomes so. The Direct Coombs test is positive in the cord blood sample. To rid the infant early of these destroying iso-agglutinins, one, two and even three exchange transfusions using appropriate fresh blood compatible with the mother's may be necessary.

Unexplained Neonatal Jaundice, a poorly understood pathological and clinical state, may be yet explained through genetics. Its increased incidence with parity commands attention.

With the gradual acceptance of these newer concepts more accurate and appropriate laboratory tests for these numerous blood antigens are mandatory. Even so, antigens exist which go undetected. Both expediency and experience demand more thoughtful donor selection to further reduce chance sensitization.

The following case is presented as an example to illustrate

the complications which may arise following the needless sensitization by a *single* transfusion.

CASE REPORT

Mr P. J. M., a 44-year-old white married veteran, machinist by trade, was admitted to the Manhattan Veterans' Hospital in November 1958, with a chief complaint of shortness of breath of 10-months' duration, and sharp anterior chest pain on walking several blocks for the past month.

PAST HISTORY: He enjoyed good health up to the present illness. **Operations:** Appendectomy in 1939 for acute appendicitis; Exploratory laparotomy, June 1952, for steady, non-radiating periumbilical pain. He received *no* blood transfusions at either operation. **Allergies:** None. He had taken penicillin without reactions.

PHYSICAL EXAMINATION: Essential findings were limited to the heart which was enlarged to percussion with left cardiac border 11 cm. from the mid-sternal-line in the 6th interspace. A Grade I diastolic murmur with harsh presystolic component was heard at the apex. There was no systolic murmur. A diagnosis of Mitral Stenosis was entertained following cardiac catheterization and X-ray studies.

OPERATION: June 4th, 1959. A mitral commissurotomy was contemplated. However, the valves on palpation felt entirely normal and the orifice wide. However, above the posterolateral commissure, a firm, smooth nodular mass suggested a myxoma of the left atrium. The tumor was not excised. He received one unit of group B, Rhesus positive blood during operation.

With the diagnosis of intracardiac myxoma established, transfer to the Presbyterian Hospital for excision of the tumor by open-heart operation with extra-corporeal circulation was recommended. On June 19, 1959, a blood sample submitted to the Presbyterian Hospital Blood Bank revealed the presence of an atypical antibody by the Hemantigen Test which proved to be anti-Jk^a on specificity. His blood group was checked as B, Rhesus positive (R¹R¹) Kell negative, Duffy (Fy^a) positive and Kidd negative. The titer of the anti-Jk^a antibody was 1:32 by the indirect globulin test. This iso-agglutinin, anti-Jk^a, a rare one, has been reported to occur in one in every 30,000 cross-matching tests.

With identification of this rare antibody (anti-Jk^a), the next step was to secure 14 donors. No Group B, Rh positive, anti-Jk^a testing serum was available in New York, Boston or Philadelphia. Permission was, therefore, secured to bleed the fasting patient. Five hundred ml. of his blood was withdrawn into a plastic bag containing 75 ml. of ACD solution and the plasma removed by immediate cold centrifugation. Because of his anemia, his own red cells were re-infused within 45 minutes. This plasma was next processed into serum and divided into 5 cc. lots.¹

¹ Courtesy, Knickerbocker Foundation, Inc., New York, N.Y.

The fact that an open-heart procedure with extracorporeal circulation constitutes, in effect, a *replacement* transfusion with mixed donor blood, makes it imperative that any acquired sensitization be respected and identified.

Because only 2 out of every 100 *white* donors would be Group B, Rh positive, Jk^a negative, this serum was distributed to nine Metropolitan Hospitals whose Blood Bank Directors had signified their willingness to help us in this quest.

Fourteen compatible donors were thus obtained. Eight units of blood were collected in plastic bags² containing 75 ml. of ACD solution, the afternoon before, and six units into plastic bags containing 2000 units of Heparin in 30 ml. of normal saline on the morning of the operation, on July 21.

OPERATION

Using a Lellehei-DeWall helix bubble oxygenator for extracorporeal circulation the right atrium was opened and a large multilobulated tumor (Figures 1 and 2) attached to the interatrial septum was removed by resection of the interatrial septum at the point of tumor attachment. The septal defect thus created was closed. This procedure proved technically difficult with a greater blood loss than had been anticipated. Perfusion time totalled 2 hours and 12 minutes. Studies of both arterial and venous pH, HCO_3 , O_2 , pCO_2 and hematocrits during perfusion are recorded in Table I.

TABLE I

PERFUSION TIME	BLOOD SAMPLE	pH	HCO_3	PER CENT O_2 SATURATION	HEMATOCRIT
5 Minutes	Arterial	7.360	13.7		36.9%
5 Minutes	Venous	7.320	16.8		39.0%
55 Minutes	Arterial	7.378	16.2		42.3%
60 Minutes	Venous	7.290	17.7		43.1%
90 Minutes	Arterial	7.509	16.0	99.1%	
90 Minutes	Venous	7.419	18.1	71.2%	

When, however, during operation an urgent need for additional blood arose, an appeal, first for Group B, Rh positive, and later for Group O, Rh positive donors was made over the hospital's public address system. Blood samples were drawn from 108 individuals and screened for the Kidd antigen (Jk^a). An additional

² Fenwal Laboratories, Somerville, N.J.

twenty pints of compatible blood were thus obtained. Nine were Group B, Rh positive and eleven were Group O, Rhesus positive. Witebsky substance was added to the latter.

In all, the patient received 34 pints of fresh Jk^a negative, Rh positive blood (23 Group B and 11 Group O). To combat the hypo-proteinemia, 75 grams of human serum albumin was injected intravenously. In what proved to be a vain attempt to control the loss of blood due to poor clotting, 300 ml. of fresh frozen Group B plasma and 17.5 grams of fibrinogen were administered.

The post-operative course in the recovery room was complicated by the continued oozing and bleeding, presumably related to the low fibrinogen and an active circulating fibrinolysin. See Table II. The blood loss through the thoracotomy tubes was measured and promptly replaced with fresh blood drawn from donors in the recovery room.

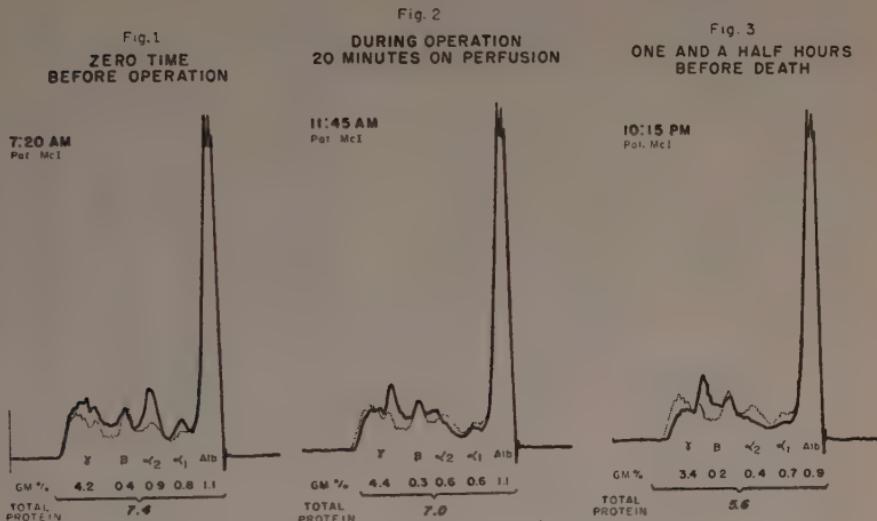
The patient expired six hours after the operation. Autopsy revealed massive bilateral hemothorax, greater on the left, with corresponding atelectasis of the lungs; extensive fresh myocardial infarction and focal encephalomalacia.

TABLE II
FIBRINOGEN STUDY*

DATE AND TIME POST PERfusion	FIBRINOGEN LEVEL m.g.%	FIBRINOGEN GIVEN
July 16, 1959	468	
July 21, 1959 Pre-operative	257	
10 Minutes from start	122	4.0 Grams
2 Hours	138	
3½ Hours	98	6.0 Grams
6 Hours	79	3.5 Grams
7½ Hours	143	
8 Hours		4.0 Grams
		TOTAL: 17.5 Grams

* By Dr Louise Phillips, Department of Obstetrics and Gynecology, Sloane Hospital for Women, Columbia-Presbyterian Medical Center.

PROTEIN PAPER ELECTROPHORETIC PATTERNS*



ALBUMIN	4.2	4.4	3.4
GLOBULINS			
Alpha 1	0.4	0.3	0.2
Alpha 2	0.9	0.6	0.4
Beta	0.8	0.6	0.7
Gamma	1.1	1.1	0.9
TOTAL PROTEINS in Grams per cent	7.4	7.0	5.6

* Performed by Miss Barbara Jones, B.Sc., Department of Medicine, Columbia-Presbyterian Medical Center.

Veronal Buffer pH 8.6; Ionic Strength 0.075M

Length of run $5\frac{3}{4}$ hours.

Dotted lines represent control run on normal human serum.
Values expressed in grams per cent.

TABLE III

PATIENT'S SERUM

	NORMAL						BLOOD BANK BOTTLE		
	7:20 am*	10:15	11:45*	2:25 pm	4:25	6:40	7:50	10:15*	
Albumin	4.9	4.2	4.5	4.4	4.0	3.9	3.6	3.4	3.7 Gms. %
Alpha 1 Globulin	.3	.4	.3	.3	.2	.2	.2	.2	.2
Alpha 2 Globulin	.6	.9	.7	.6	.6	.5	.4	.4	.5
Beta Globulin	.7	.8	.8	.6	.8	.9	.7	.5	.5
Gamma Globulin	.9	1.1	1.1	1.1	1.1	1.1	.7	.9	1.0
Total Proteins	7.4	7.4	7.4	7.0	6.8	6.6	5.9	5.6	5.9 Gms. %

REMARKS: * Depicted in line drawing.

1. At the start, the patient's serum albumin was slightly lower than normal and his globulins were correspondingly elevated since his total protein was normal. The alpha 2 globulin was particularly elevated. This finding is common in chronic inflammatory disease, or wasting disease of long standing.
2. As time progressed his protein pattern came to resemble more nearly the blood bank sample the elevated alpha 2 globulin disappearing. The final two samples are even more diluted than the blood bank sample.
3. The extra peak which appears in the forward part of the gamma globulin in the post transfusion specimens and in the blood bank specimen is probably denatured protein which does not move electrophoretically.

(These electrophoretic analyses were done by Miss Barbara Jones, B.Sc., Department of Medicine, Columbia University, College of Physicians and Surgeons).

COMMENTS

The Kidd blood group system was discovered in 1951 by Allen, Diamond and Niedziola (7) when investigating an antibody in the serum of Mrs Kidd whose infant had developed erythroblastosis foetalis. Mrs Kidd, Para VI, Gravida VI, had never been transfused. The notation Jk^a was adopted to define this antigen. More examples of anti- Jk^a were soon reported (8, 9, 10).

"The antigen which the 'new' antibody defined was shown to be serologically independent of sex and of the antigens of the ABO, MNSs, Rh, Lewis and Duffy blood group systems, and also of the Lutheran and Kell systems." (11). It was also proved "to be inherited by means of a gene capable of expressing itself in single or double dose." (11). Subsequent work revealed its incidence to be 77 per cent positive among white people.

In 1953, the anticipated antibody to the allelomorphic gene, Jk^b , was reported (12, 13, 14).

"The original serum of Mrs Kidd was, for a time, active against cells suspended in saline, but later it became necessary to use an indirect globulin test" (11). The Coombs' test alone, or the Coombs' test on trypsinized cells are the methods of choice in detecting both the anti- Jk^a and anti- Jk^b antibodies.

In the case reported, a *single* transfusion containing the Jk^a antigen sensitized this patient and added immeasurably to the difficulties of handling his operation when large amounts of blood were later needed.

If the *single* transfusion at the first operation had not been administered, sensitization by the Kidd antigen might not have occurred. It may, then, be seriously questioned whether a single unit of blood should *ever* be given, except in a dire emergency, unless it is the patient's own blood stored in advance. The newer technique of immediately freezing the red cells with glycerol after phlebotomy for reinfusion into the patient at a later date, may become a common medical practice in the not too distant future as the *safest* form of transfusion.

There is a specific category of patients in whom *extreme* care must be exercised in order to avoid sensitization.

1. Young girls who are potential mothers.
2. Women in the childbearing period of life.
3. Children with Cooley's anemia, hemophiliacs, etc., who will require multiple transfusions to live.
4. Open-heart surgical cases, especially children.
5. Young patients requiring massive transfusions, either before, during or subsequent to operations.

TABLE IV

RACIAL DISTRIBUTION OF BLOOD GROUPS

sampled from Mourant, A. E.—The Distribution of the Human Blood Groups, Charles C. Thomas, 1954.

ABO Groups	U.S. White	U.S. Negro	English	Amer. Indian	Eskimo	African Bantu	Australian Aborigine
Phenotypes %							
O	45	45	48	17	54	57	60
A	40	30	41	83	43	24	40
B	10	21	9	0	2	17	0
AB	5	4	2	0	1	2	0
Rh Groups							
Chromosomes %							
CDe	42	17	41	52	55	14	56
Cde	1	1	1	0	0	2	13
cDE	15	17	16	48	40	1	20
cdE	1	0	1	0	0	0	0
cDe	3	36	1	0	5	60	9
cde	38	29	40	0	0	23	0
						+CDE	2%
MNSs Groups							
Phenotypes %							
MMs	22	7	21	23	27	10	0
MsMs	9	17	7	26	39	24	7
MNS	27	17	27	33	7	12	0
MsNs	22	33	23	15	22	37	36
NNs	7	6	7	3	0	3	0
NsNs	13	20	15	0	5	14	57
Kell Groups							
Phenotypes %							
Kell +	12	2	8	0	0	1	—
Kell —	88	98	92	100	100	99	—
Lewis Groups							
Phenotypes %							
Le (a+b—)	23	23	20	—	—	—	—
Le (a—b+)	71	60	72	—	—	—	—
Le (a—b—)	6	16	8	—	—	—	—
Le (a+b+)	0	1	0	—	—	—	—
Kidd Groups							
Phenotypes %							
Jk ^(a+)	77	93	77	92	100	—	—
Jk ^(a—)	23	7	23	8	0	—	—
Duffy Groups							
Phenotypes %							
Fy ^(a+)	68	26	65	93	100	12	—
Fy ^(a—)	32	74	35	7	0	88	—

When we are faced with the problem of blood transfusions in a patient who belongs to one of the foregoing classifications and who has not been previously sensitized, either through pregnancy, or by the so-called "Cosmetic transfusion," how many antigens should we test for?

How much time and money should be spent?

To what lengths should we go to obtain compatible blood so as to avoid "long-term" effects?

There is no definite agreement on these matters and there is an *urgent* need for an analysis of these risks of sensitization as weighed against the difficulty of securing donors.

The distribution of different antigenic factors within blood group systems has been demonstrated to vary between ethnic groups and races (16, 17, 18).

Table IV gives in percentage their incidence in six racial groups (17) of blood antigens. From this table it is readily deduced that if a *white* donor had been selected for the first transfusion, the chances of our patient receiving Kidd negative (Jk^a) blood would have been three times less than if blood from a Negro donor had been used, as was the case.

On the other hand, consideration of the Kell antigen, thought by many to be the third most important, reveals that the chances of sensitization are *six* times greater if blood from a white donor is given to a negro recipient, than if a negro blood donor is used. The ratio in the Duffy system in the same situation is nearly *three* to one.

It appears that the farther removed in time men are from a common ancestor, the greater will be the likelihood of difference in the pattern of antigenic factors within their blood group systems. Conversely, it may be assumed that the more closely related individuals are one to another, the less likely are their antigenic patterns to differ. Obviously, this will be more true of inbred or "pure strain families" than in families of diverse ethnic or racial origin.

To reduce this sensitization to the innumerable blood antigens, whenever subsequent transfusions may be necessary, or pregnancy ensue, it is suggested that blood donors should be selected in the following order of preference, whenever feasible:

SELECTION OF BLOOD DONORS FOR TRANSFUSION

ORDER OF PREFERENCE

1. The patient's own blood "banked" in advance.
2. The blood from an identical twin.

3. Blood from the patient's own blood relatives, provided it is proved compatible by present accepted methods.
4. Compatible blood from donors of the same ethnic group as the patient's.
5. Lastly, blood donors of the patient's own race.

It cannot be too strongly emphasized that the blood selected must be proved compatible according to standard accepted methods of testing: the saline, high protein and indirect Coombs cross-matching techniques, with adequate controls, at 37.5° C or at lower temperatures whenever "cold" antibodies are suspected.

But these laboratory tests *alone* do not suffice to stem sensitization. If, in addition, we employ the foregoing simple expedients for donor selection, the *probability* of sensitization will be *reduced* and the chances of "the long term effects" of the initial transfusion will be minimized either in future pregnancy, should the patient be a woman, or for subsequent transfusion in later years, or for both.

The degree of cumulative lessening of risk over many blood group systems needs to be explored, in order to justify *this new philosophy* of donor selection in blood transfusions, especially in that small but important group in which "the long term effects" carry the greatest penalty.

Lastly, the need for a large central community donor panel, as employed in England, from which donors with a particular combination of antigens, can rapidly be found by an International Business Machine for coding and sorting, is *long overdue* in the "melting pot" of the United States.

The right donor can then be "whistled in."



FIG. 1—GROSS SPECIMEN

The specimen is a reddish gray, gelatinous mass which measures 7 x 3 x 2 cm. in greatest dimensions. The surface is glistening and has areas of yellowish grey exudate. Over one aspect there is a 1.5 cm. fragment of thick, fine, fibrotic tissue, said to be the base of the tumor.

The three other portions of the specimen are essentially similar to the first in surface, color, consistency. These fragments all measure about 6 cm. in greatest dimension. One fragment appears to be covered on one aspect by a semi-translucent, thin membrane.

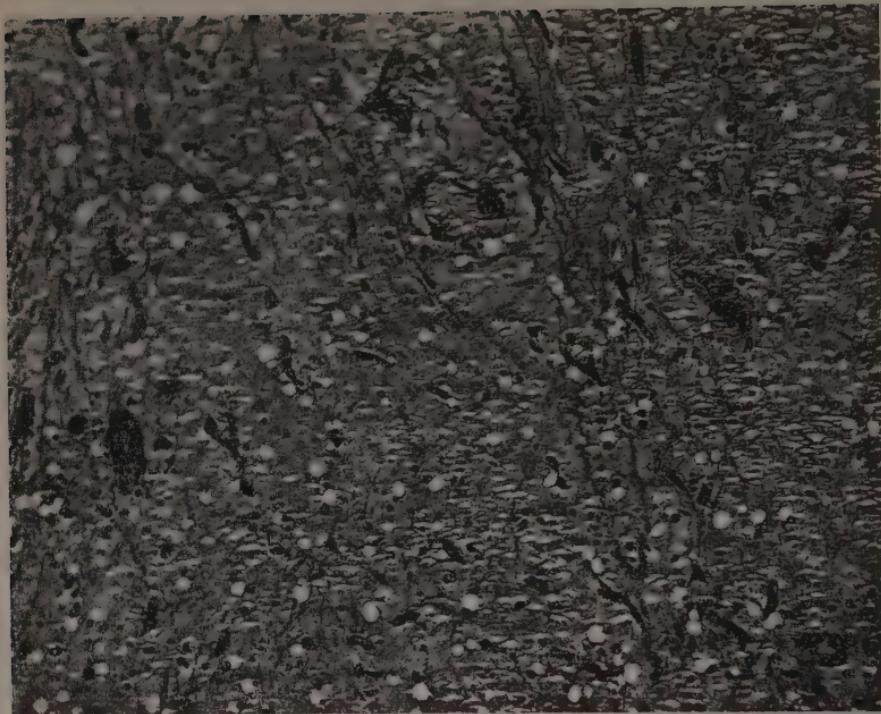


FIG. 2—MICROSCOPIC

Sections through the specimen show a tissue composed of fibroblasts with collagen and reticulin fibers in a myomatous stroma. There is a moderate amount of fibrin evident. There is also a proliferation of cords of endothelial cells which appear to make vessels in places. The myxoid material which comprises the bulk of this specimen stains light blue with trichrome stain and is PAS positive revealing its mucopolysaccharide nature. There is an absence of stellate cells which are usually seen in myxomas.

In slide C, which was taken through what is said to be the base of the specimen, there is a group of what appear to be muscle cells. This is most likely the point of attachment to the atrial wall.

DEFINITIONS

ETHNIC

Pertaining to nations not Christian or Jewish, Gentile, heathen, pagan. From the Oxford English Dictionary, Vol. III (D-E), p. 313. Oxford Clarendon Press, 1933. (Column 3, Definition 1.)

RACE

A group of persons, animals, or plants, connected by common descent or origin.

"In the mildest sense the term includes all descendants from the original stock, but may also be limited to a single line of descent or to the group as it exists at a particular period." (Definition 1, Column 1.)

"A limited group of persons descended from a common ancestor; a house, family, kindred." (Definition 2, Column 1.)

"A group or class of persons, animals, or things, having some common feature or features." (Definition 2, Column 2.)

The Oxford English Dictionary, Vol. VIII (Pay-Ry), p. 87. Oxford Clarendon Press, 1933.

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6. To our colleagues, especially Mrs Erika Awer, for first detecting this rare antibody in the patient's serum and to those mentioned and unmentioned in this paper for their generous share and helpful loyalty.
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THE HERD INSTINCT IN MODERN SOCIOLOGY

By ROBERT KUTTNER, PH.D.

A curious development in modern sociology is the attempt to revive concepts related to or derived from the old notion of the herd instinct. The idea of an inborn human trait of gregariousness never enjoyed wide acceptance and one would have imagined it was past revival in any form. It was with considerable surprise, therefore, that the scientific world greeted the newest manifestation of this doctrine.

In 1949, the Director-General of the United Nations Educational, Scientific and Cultural Organization summoned to Paris a panel of eight experts to review matters pertaining to racial conflict and prejudice. The group consisted chiefly of psychologists and social scientists. After three days of deliberation, a set of resolutions were drawn up and submitted to a body of prominent consultants numbering about twenty men. The end-product was released to the press in July 1950 and was represented to be a summary of the state of knowledge of race science. It ended (paragraph 21) with the announcement that humans possessed an inborn drive toward brotherhood and that the frustration of this drive on any level resulted in diseased individuals and societies. The statement with added comments is reproduced in Ashley Montagu's volume *Statement on Race* (1).

The resolutions evoked mixed reactions from the scientific community. Since the panel was supposed to interpret facts pertaining to race, the physical anthropologists were somewhat astonished to find themselves by-passed in the selection of the panel (2). The major criticisms were leveled at paragraph 21 according to a later UNESCO report (3). In view of the protests a new conference was arranged and a revised manifesto was issued in 1951 (3). It is notable that the new panel was comprised of biological scientists and that the phrases implying human co-operation to be instinctive were properly omitted. The fact that over two dozen scientists originally prepared or approved a

document claiming an instinctive basis for brotherhood is worth some attention.

The herd instinct hypothesis was developed to explain the prevalence of animal societies among higher life forms. The existence of herds and packs of mammals, of bird flocks and schools of fish, was held to be the result of genetic influences which welded individuals into co-operative communities that enjoyed greater security or more efficient hunting. A fair example of the herd instinct school is W. Trotter (4). Since his hypothesis was framed at a time when genetics, instinct theory, and animal psychology were poorly developed, it is difficult to present his views in modern terminology. It is probably sufficient to say that "instinctive" behavior is no longer believed to be purely genetic, and that elements of pre-conditioning enter into most of the stereotyped automatisms that we call instincts. Reproductive and maternal drives can safely be assumed to contribute to the cohesiveness of animal societies. Besides these biological residues, learning and imprinting (instantaneous conditioning) also operate in establishing and maintaining animal groups. The fact that social behavior can be reduced to simpler components shows that it is not an instinct at all but a complex of many factors that yield gregariousness only in their summation.

The inability to demonstrate a pure herd instinct in lower animals makes it quite unsound to apply this concept to human societies. It requires no special insight to realize that the desires of some scientists to promote social harmony were responsible for the UNESCO revival of the theme of inborn altruism. The UNESCO panel's rapporteur, Professor Montagu, has taken a leading part in expounding on the innateness of brotherhood. He has himself derived social organization from the subsidiary element of maternal love. Civilization, as he pictures it in one passage, is a substitute mother (5, p. 96). The inborn nature of gregariousness thus appears to be little more than an extrapolation of maternal endocrine activities; in this form the social instinct has no independent basis and is merely an extension of familial sentiment. Societies may indeed be fashioned to duplicate the security of family life but this is intelligent design and should not be confused with an instinctive process. Professor Montagu's reasoning makes society an instrument by which infantile needs are satisfied. He rather glibly identifies the "dependent security" required by the child with the "positive freedom" normal man is supposed to crave (1, p. 135). Equating a paternalistic society with normal adult needs of freedom is too great a leap of the imagination without some secure middle ground of evidence. An analogy serves to expose the weakness of the argument. Milk

is even more important than love and security, yet man is ultimately weaned and may actually find this fluid distasteful. Using Professor Montagu's reasoning, an adult who dislikes milk is abnormal because he has outgrown his infantile lactophilia. This can only be true if civilization is considered to be a vast substitute udder, and most sociologists would hesitate to drive their analogies that far.

The UNESCO thesis on brotherhood is best understood in the context of current sociology. The theorizing in this area has emphasized Utopian qualities almost to the exclusion of everything else. Rationalizations are sought which can be used to decrease group frictions. The cementing or integrating forces receive exaggerated attention in the hope of fostering greater harmony and stability. Neglected are the forces that promote change and progress. These anti-stagnation factors are more likely to be tensions and conflicts than harmonies and accords. The need to recognize the dynamic rather than the static elements in sociology has been cogently pressed by Dahrendorf (6, 7). From Dahrendorf's perspective, human institutions lack universal consensus and any structuring of society generates unavoidable polar influences which prevent the attainment of Utopian equilibrium. If the conflict inherent in social organization is what catalyzes progress, then to ignore it gives a distorted picture of humanity.

The Utopians place the origin of social ills in psychological variables like aggressiveness which they hope can be eradicated. This position is refuted if society itself automatically produces dynamic frictions. Our duty then is to channel these tensions into progressive directions rather than to work for their elimination. Diametrically opposed to Utopianism were Spencer and Darwin who made inter-group competition the basis of biological evolution. More recently, Keith applied this principle to racial evolution. (8). In strong disagreement is Montagu who states that the struggle for survival is a false projection of Victorian imperialism and Industrial Revolution ethics into the animal kingdom. The bloody jungle code of fang and claw is denounced as an anthropomorphic analogy that distorts the basically co-operative nature of biological evolution (5, 9). How true this is cannot be determined but it is enough to say that the rival theory of evolution is subject to similar charges of anthropomorphic argument. It is very probable that animal altruism, co-operative evolution, and the love-principle found in biology today are mere reflections of 20th Century notions of brotherhood, pacifism, and socialism. In any case, it is clear that a scientific sociology must be based on more than analogies and extrapolations from animal societies.

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THE APPLICATION OF GENETICS TO ETHNOLOGY

By R. GAYRE OF GAYRE

Ethnology, as here used, refers to the science which classifies the principal organic divisions of mankind by their appearance. Thus, the principal divisions are such as Caucasoid, Mongoloid and Melanoid, which latter is divisible into Negroid and Australoid. Each of these is capable of subdivision, as in plant and animal species, either due to organic branchings out from a common stem, such as the Nordic, Mediterranean and Atlantic races among the Caucasoids, or other branchings which are due to a certain amount of cross-breeding which has become stabilised in the same way as breeds of animals, and which we call racial-breeds. Among the Caucasoids we consider the Alpines, Dinarics, East Baltics and Armenoids are probably racial-breeds, while the Hamitics are probably a similar racial-breed part way between the Caucasoids and the Melanoids.

The way we recognise each such race or racial-breed is by a group of traits which are found to be common to the type wherever we find it. Thus the typical Negroid has, among other characters peculiar to himself, a dark skin, dark non-straight and non-wavy hair, dark eyes, a strong tendency to prognathism, thick everted lips, broad, flat and open nostrils, and generally a long skull (although there are also broad-skulled Negroes as well). The Mongoloids differ in all these characters, not least those of colour, and also in form of skull, except in the case of the brachycephalic Negroids to whom we have referred, and so on.

When we describe the traits which are in common in any single racial group we have to remember that these are hereditary. Therefore, if a group of hereditary traits are common in one race which are not in another, it obviously follows that the one is possessing a distinct genetic pattern different from that of the other.

From *a priori* considerations it therefore follows that genetics is an essential foundation to ethnology, since a study of this science can only tell us what are the characters of any given ethnic group from observation, but it cannot tell us how they have been acquired nor how they will be transmitted without genetics.

We propose to take a limited number of racial traits, by which ethnologists classify races, and indicate their genetic structure, to demonstrate how fundamental are racial characters.

The most striking character is that of colour, and the two extremes are provided by the white Caucasoids on the one hand and the black Negroids on the other.

Professor R. Ruggles Gates has shown¹ that skin colour is inherited almost independently of other traits. Thus an individual may combine a very Negroid nose, mouth and lips with a nearly white skin, or wavy hair and Caucasoid features with a black skin. As there has been shown² a correlation between breadth of the nose and skin colour it is possible that one of the genes for skin colour may have a nasal linkage. This would account for the retention of a little colour in the otherwise white skin in the group of characters we have just given above.

Professor Ruggles Gates, from extensive studies of the inheritance of colour from actual pedigrees, has concluded that at least four factors are involved, QRST in the Black and qrst in the White (Nordic) skin, with other racial types possessing other combinations of these four factors. The writer, having approached the matter from the opposite direction, of trying to account for the ever deepening tones as one passes from Nordic to Negroid, and for the yellowing colour from Nordic to Mongoloid has reached the same conclusion. This approach may be more empirical than that of Professor Ruggles Gates, but it is in full support of his conclusions.

As a result of a study of racial colouring in hybrids, Negroid-Caucasoid crosses, Professor R. Ruggles Gates was able, with the assistance of Dr Ilona Ellinger,³ to produce a really valid colour scale, which is based on the actual colours in the crosses, each one of which corresponds to an actual genetic composition. There are 8 depths of colour and they correspond to 8 genetic combinations using his QQRRSSTT factors and their recessive qrssstt.⁴

From the evidence it appears that the effect of these factors is accumulative—T has a lesser colouring effect than R, and S has a yellowing one⁵.

It is clear from this example that skin colour, which is the most striking ethnological character, is based upon the same kind

¹ R. Ruggles Gates, *Pedigrees of Negro Families*, The Blakiston Co., Philadelphia-Toronto, 1949, p. 238.

² By C. B. Davenport & M. Steggerda, *Race Crossing in Jamaica*, Carnegie Institution of Washington, Publ. No. 395, 1929.

³ R. Ruggles Gates, *Pedigrees of Negro Families*, pp. 253-4.

⁴ R. Ruggles Gates, in "The African Pygmies," *Acta Genet. Med. et Gemell.*, Vol. vii, April 1958, gives the application of these genetic combinations in connection with Pygmies.

⁵ R. Ruggles Gates, *Pedigrees of Negro Families*, p. 253.

of genetic inheritance as any other traits in plants or animals, and is due to at least four (unequal) genes.

If skin colour is genetic it must segregate back to its original racial types, in the same way as other genetic factors do. It is, therefore, surprising to find it alleged time and again that genetic segregation does not take place. We feel that this view is influenced in some quarters by sociological ideology, since it is fashionable in some quarters nowadays to allege that the fate of mankind is to become a blend of all racial types, and so some sort of brown-skinned, and social theories must be adapted to this situation. But the facts are overwhelmingly against any such possibility. Professor R. Ruggles Gates has given overwhelming evidence of segregation in all kinds of crosses from Eskimo-Nordic, to Ojibway Indian-Caucasoid, Tasmanian-Caucasoid, Negroid-Caucasoid in South Africa¹, and Swedish-Negroid.

While it is possible to exaggerate the importance of colour in ethnology, by allowing it to obscure the fact that it is only one of many racial traits, on the other hand, it is, for all that, a most important one. There is evidence that in mammals there is an association between the coat colour and other characters as well as physiological nature and behaviour². The genes which control the coat colour may therefore be pleiotropic, affecting not only skin colour, but also physiology and behaviour.

There is *prima facie* evidence that something similar exists in man. For the association in the Caucasoids between fair freckled skins, a thin skin with increased capillaries and vasomotor instability, red hair, a generally acknowledged greater excitability of temperament, and, it is believed, a more sensitive reaction to anaesthetics,³ is very probable.

Therefore, it may well be that the difference between Black, White and Yellow is much more than skin deep, but may well range over a series of characters. Consequently, skin colour is important.

In addition there are numerous other characters associated with the Black, White and Yellow stocks, which are as characteristic of those strains as the skin colour, whether the characters are genetically linked with colour or not. All of these have been found, when investigated genetically, to be subject to the same laws of descent as characters which one finds in plants and animals.

The human nose is not only clearly assignable to various racial

¹ R. Ruggles Gates, *Heredity in Man*, 1929, Cap. xvi, and *Pedigrees of Negro Families*, p. 255.

² Keeler, Clyde E., "Coat colour, physique and temperament," *J. Hered.* 1947, Vol. 38, pp. 271 ff.

³ R. Ruggles Gates, *Pedigrees of Negro Families*, pp. 258-9.

types, such as the flat open nostrils to the Negroids, the long narrow to Nordics, the long high bridge to the Dinarics, and so on, but its inheritance has been proved to be genetic. H. Leicher¹, E. Rodenwaldt², Hauschild³, C. B. Davenport⁴, and the works of Ruggles Gates⁵ have all more than established the genetics of nasal inheritance.

The same thing can be said for the inheritance of eye colour, hair colour, and hair form.

In man, however, when we come to study his genetic inheritance, whether as an individual or as a member of a race, the genetics tend to become much more complicated than in the less complicated features normally dealt with in order to explain simply how they work. Multiple alleles (or allelomorphs) alone obscure any simple dominance or recessiveness which would be apparent. Many traits are the result of multiple genes.⁶

Nevertheless, the difficulties of human inheritance cannot be understood without grasping the basic framework which we have discussed, nor does anything which arises from the more complicated genetic structures frequently met with in man in any way invalidate what we have said concerning the classifications of mankind into various racial groups based upon their outward appearance. The one fact on which we can stand firmly is that all the data which has been used by generations of ethnologists for the classification of man can be shown to be of genetic origin, and, consequently, racial differences are genetic, and not due to environment or social inheritance.

¹ H. Leicher, *Über die Vererbung der Nasenform*. Verh. Ges. Phys. Anthropol. III, Sonderh. 3. V. Jahrg. des Anthropol. Anz., Stuttgart, 1929, pp. 23 ff.

² Die Mestizen auf Kisar. Batavia, 1927, pp. 483 ff.

³ Bastardstudien an Chinesen, Negern und Indianern in Trinidad und Venezuela. Z. Morph. u. Anthropol., 1941, Vol. 39, pp. 181 ff.

⁴ The genetical basis of resemblance in the form of the nose. In "Kultur und Rasse," Berlin, 1939, pp. 60 ff.

⁵ *Human Genetics*, New York, 1946 sums up much of the existing evidence; see also his studies in Race Crossing, Z. Morph. Anthropol. 1956, Vol. 47, 3, pp. 233 ff. Stuttgart, and *Pedigrees of Negro Families*, all of which are invaluable mines of information and provide excellent bibliographies for further studies.

⁶ As a consequence R. Ruggles Gates has been led to say, in "Negro X Chinese," Zeitschr. f. Morph. Anthropol., 1956, Vol. 47, 233, that dominance is generally absent in racial crossings, in contrast to medical genetics and simple mendelism. Owing to many factors being involved, we do not get a clear dominance, but an obscuration. Thus the Black X White gives the intermediate Mulatto. This problem is met in a more elementary form in the imperfect dominance of black over white in the Blue Andalusian fowl.

ZOOLOGICAL SUBSPECIES OF MAN

BY E. RAYMOND HALL

The systematic zoologist, one who classifies animals as to kind, has something to offer. If he specializes on the class Mammalia, it is clear to him as it is to the non-zoologist that man differs in heritable structure from place to place over the world's land area. Now the zoologist knows also that other species of mammals differ from place to place. In any one of these species, if the differences in shape and size are such that all individuals in one considerable area can be distinguished from all those in another, the kinds are classified as subspecies. In man, the races and geographic variants are divisible into approximately five zoological subspecies. The word approximately is used because some zoologists would include subspecies *americanus* under *asiaticus* and so recognize only four subspecies, whereas other zoologists would subdivide *asiaticus* into two or more subspecies and thus would recognize more than five subspecies. The five subspecies here recognized are:

- (1) *Homo sapiens sapiens*, Caucasian;
- (2) *Homo sapiens americanus*, American Indian;
- (3) *Homo sapiens asiaticus*, Mongolian;
- (4) *Homo sapiens afer*, Negro;
- (5) *Homo sapiens tasmanianus*, Australian Black.

Something that most non-zoologists seem not to know is that the subspecies of man are distinguished one from the other by the same sort of differences—characters, in zoological parlance—as are subspecies of almost any other kind of mammal, say, subspecies of the mole, marmoset, or moose. For example, in the skull of a Point Barrow Eskimo, one of the races of the subspecies *Homo sapiens asiaticus*, the size and shape of the bony opening for the nose is significantly different from that in a Zulu Negro, one of the races of the subspecies *Homo sapiens afer*. In the Eskimo the opening is narrow (less than half as wide as high), whereas in the Negro it is wide—more than half as wide as high. Under a microscope the hair of the head of the Zulu is seen to

have a characteristic shape in cross section, and inspection by means of only the naked eye reveals that the hair of the Zulu is kinky and his skin black, whereas the Eskimo's hair is straight and his skin yellow or dark reddish. Even cursory comparison will serve to multiply this list of differences. Similarly, in the moose, the subspecies *Alces alces alces* of Europe has the premaxillary bone extended back beneath the nasal bone and the color of its hair is grayish, whereas the subspecies *Alces alces gigas* from Alaska differs in that the premaxillary bone does not extend back so far as the nasal bone and the hair is blackish (see figure 1 showing geographic ranges of the subspecies of moose).

It is necessary thus to stress that subspecies of man, like subspecies of other mammals, are distinguished by trenchant morphological characters of a heritable sort, because many advocates of an international brotherhood of man give the impression that kinds of men cannot be so distinguished. This mistaken impression prevails probably because in an area geographically intermediate between those inhabited by two different subspecies, crossbreeding produces people with intermediate structural characteristics. This blending, or more precisely intergradation, makes it impossible certainly to classify as to subspecies every individual person. For example, in crossing Asia on the Trans-Siberian Railway, the passenger rides through a belt of transition in which the native peoples are intergrades between Orientals (subspecies *asiaticus*) and Caucasians (subspecies *sapiens*). As a result the anthropologist usually says something to this effect: Because of intergradation it is impossible satisfactorily to distinguish one race of man from another. Note that the anthropologist said one race—not one subspecies which is composed of several or many races—but, nevertheless, from this statement other persons (usually unfamiliar, to be sure, either with physical anthropology or zoological classification) conclude that it is impossible to distinguish by tangible structural characteristics all Eskimos from all Zulus as we have been at pains to show can be done. Incidentally, and most significantly, it is this intergradation which permits and requires the division of men into subspecies, because, for the systematic mammalogist intergradation is the criterion for subspecies and lack of intergradation is the criterion for species. Therefore, if there were no geographic intergradation (crossbreeding) in the areas where the geographic ranges of two kinds meet, they would be full of species instead of subspecies.

The differences in customs, habits, and especially in artifacts which tend to set man apart from other mammals, have unquestionably complicated the geographic distribution of subspecies. For example, the construction and use of boats have

given to the subspecies of man on the Pacific Islands a distribution different from that of almost any other terrestrial mammal. Still, the difference in artifacts and habits in different areas may have aided geographic differentiation and one effect probably offsets to some extent the other.

Not only do subspecies of man differ in shape of parts of the skeleton, color of skin, and shape of hair, as do subspecies of other kinds of mammals, but they differ in psychological characteristics. A Chinese who finds himself in a crowd of perspiring whitemen, or a Caucasian who finds himself in a similar situation among Negroes, by distinctive odor alone can identify his companions as of a subspecies different from the one to which he belongs. G. M. Stratton and P. M. Henry (*Amer. Jour. Psychology*, vol. 56, p. 169, 1943) record significant differences in electrical resistance of the skin of Caucasians and Orientals when there was involuntary impulse to avoid pain.

For these reasons the zoologist recognizes the falsity of statements to the effect that the kinds of men cannot be satisfactorily distinguished morphologically or physiologically. He knows that subspecies can be satisfactorily distinguished and, as an improved basis for amicable relations between them, urges frank recognition of the differences, the better to make allowances for them.

Many persons who have expressed themselves on racial and international problems at the peace table in the past were unaware of the magnitude of these differences, therefore minimized their importance, and so far as known the zoologist's view has never been taken into account in drawing up peace terms. Recognition of the differences between subspecies of man, or for that matter recognition of inherent differences between categories of almost anything, permits the application more readily of provisions that promote harmony. Harmony among men makes for peace and thus we see one reason for the zoologists' contention that application of their findings may contribute to a longer and enduring peace.

But the zoological view may be helpful in yet other respects. Consider, if you will, the results of competition between closely allied subspecies of wild mammals when one penetrates into or is introduced into the range of another. Whether they be mice, moles, or monkeys, one and only one subspecies survives in a given area, because after a few thousand years, ordinarily in a much shorter time, cross breeding may result in amalgamation, a sort of extinction by dilution. But the more common results are either that they fight and one kills the other, or that as a result of less direct combat, the individuals of one subspecies more often often usurp the best food, places best suited for rearing young.

and shelters affording maximum protection from enemies. Therefore the one subspecies thrives, whereas the other subspecies because of lower birth rate and decreased longevity that result from inferior food, inferior nurseries and insufficient shelter, decreases and disappears. The introduced black rat (*Rattus rattus rattus*) has disappeared from some large areas in North America where competition was furnished by another introduced subspecies, *Rattus rattus alexandrinus*. So it goes in almost every instance where kinds of mammals so closely related as subspecies of the same species are suddenly thrown into competition over a large area. Indeed, study of the thousands of subspecies of native wild mammals has led to the formulation of the biological law concerning them that: *Two subspecies of the same species do not occur in the same geographic area.* Of the half dozen or fewer exceptions reported to date, reinvestigation has shown that the two kinds instead were in every instance full species, or two subspecies that lived each in a habitat apart from the other. Thus the rule remains almost or quite without exception and it should give pause to anyone about to advocate the long continued residence together of subspecies of man.

Another zoological generalization that man ought to take into account is that when two kinds of closely related animals are thrown into competition, the one native to the larger land mass ordinarily prevails. The reported increase of the introduced Old World reindeer (*Rangifer tarandus tarandus*) in Alaska at the expense of the native caribou (*Rangifer tarandus arcticus*) is a case in point.¹ The red-backed mouse (*Clethrionomys dawsoni*)² which seems to be relatively a newcomer to the Alaskan area of North America from Asia, appears to be succeeding at the expense of the native American red-backed mouse (*Clethrionomys gapperi*). In past geological ages there have been several interchanges of fauna between North America and Asia. These were at times when a higher land level, or a lower sea level, between Asia and North America provided a land bridge between those two continents. Our increasingly complete record of fossil mammals shows that the balance in those past ages, as well as in the present, definitely favored the large land mass, Asia (see fig. 2). That is to say, of the mammals that North America gave to Asia in later geologic time, only the camels and horses survived there; but of the mammals that Asia gave to North America, elk, moose, reindeer, bison, and other species prevailed and remain in North America today.

¹ By 1960 it seems that *Rangifer tarandus tarandus* is not holding its own in North America.

² *Clethrionomys rutilus dawsoni* of 1960 nomenclature.



FIG. 1. Map showing geographic distribution of the five subspecies of the moose (*Alces alces*).



FIG. 2. Direction of migrations between Asia and North America of some of the larger land mammals in later geologic time.

What, then, are the chances of survival of the Caucasians in North America if they permit the infiltration of the Oriental subspecies of man from the larger land mass of Asia? The Caucasians' chances would appear poor indeed. But the Caucasians are not Americans—there isn't a family among them that can claim residence of more than 400 years on this continent; the Caucasians, too, are from the larger land mass, the Asiatic land mass, albeit from its western edge whereas the Orientals are from its eastern edge. What the Caucasian subspecies did to the subspecies native here, the American Indian, whose ancestors at a much earlier time came from Asia, the Caucasians may after all avoid for themselves because their recent Asiatic origin gives them in North America almost a 50-50 chance with the Orientals.

But, is this competition necessary? To invite it by permitting the immigration of Orientals, and to foster it by granting citizenship on the North American mainland to Orientals seems foolish and violates every biological law, of recent and past geological ages, that relates to the harmonious existence of two or more subspecies of the same species. To imagine one subspecies of man living together on equal terms for long with another subspecies is but wishful thinking and leads only to disaster and oblivion for one or the other. More to the point at the moment, such a course and its inescapable consequence insure in the process of solution either bloodshed and violence or a more insidious competition in which racial prejudice, and fancied superiority, set over against alleged inferiority, come to the surface with all of the associated evils that poison men's minds, sicken their bodies and torture their souls.

The biologist knows that subspecific characters make Negroes extreme in hairlessness of body, Caucasians extreme in lack of pigment, American Indians extreme in thinness of upper incisor teeth, and Australian blacks extreme in overhanging brows, but when the biologist totals all the extremes for any one subspecies he neither proves nor implies superiority or inferiority for any subspecies. He does emphatically proclaim significant differences. To him, the biologist, the prospect of a world brotherhood in which all men everywhere are subspecifically the same also is unalluring because it robs the world of variety and hence of much that is of interest. For the zoologist—and probably most men hold the same view—an improved world order should insure the opportunity to each subspecies to perpetuate itself, if it so chooses. Many think that a more progressive species, as well as a more varied and interesting one, will be the result if each subspecies preserves itself, if necessary by deportation of "invaders" which have a higher birth rate and are of another subspecies. Obviously, therefore, in some countries or in certain selected political areas, it would be

necessary to grant citizenship rights to one subspecies only.³ Advocates of this policy would encourage the interchange of scholars, teachers, scientists, skilled craftsmen, commercial representatives, and others to the maximum but citizenship for one of these selected areas would depend on zoological subspecies.

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³ In effect the United States of America did this in the 1800s by establishing Reservations for the American Indian. Private ownership of real property on a reservation was restricted to the Indian subspecies (*H. s. americanus*), giving the Indians control of occupancy. They could leave and compete with other species outside the reservation. Many who did so failed in that competition and returned at will to the reservation. But on nearly all reservations an increasing percentage of each succeeding generation prospered outside the reservation. As a result of that economic and cultural prosperity of individual Indians outside, and as a result of their amalgamation (in the sense of interbreeding with other subspecies), many reservations were abandoned as such after only three to five generations. In and around the reservations in the eastern and central states, which areas were the first to be usurped from the Indians by Caucasians (and Negroes, then mostly in slavery), the inevitable amalgamation has progressed so smoothly, socio-logically, that today almost every American who is of Indian ancestry even in minor degree makes no attempt to conceal that ancestry and, indeed, instead points to it with pride. This attitude is rapidly spreading westward and 50 years hence probably will be general all the way to the Pacific Coast of the United States of America.

On a few reservations the Indians up to now have chosen to perpetuate the subspecies. The Navajo Indian in Arizona can be cited. At the boundaries of the Navajo Indian Reservation pride, without arrogance, in subspecific ancestry, on each side of the boundary, is developing mutual respect. Consequently, for a considerable time yet, "citizenship" in the vicinity of Kayenta, Arizona, probably will depend on subspecies (*americanus* in this instance).

Regardless of whether amalgamation was rapid or slow at a given reservation, the setting aside of it prevented much insidious competition, individual injustice, human suffering, and in many instances violence and bloodshed, while the Indians were learning enough of the culture of the Caucasian invaders to enable the Indians successfully to compete outside the reservation. Therefore the results realized from setting aside reservations for North American Indians has provided a strong argument to persons who favor granting citizenship rights to only one subspecies in certain political areas for as long as may be necessary.—E.R.H., June 1960.

THE TESTING OF NEGRO INTELLIGENCE

A REVIEW

BY CORRADO GINI

Doctor Audrey M. Shuey, Chairman of the Department of Psychology of Randolph-Macon College, has reviewed in the volume, the *Testing of Negro Intelligence*,* the differences, between Whites and Negroes, observed in the application of mental tests conducted in the United States during the last forty years.

Doctor Shuey concludes that the regularity and the concordance of results attest to an hereditary basis for those observed differences.

Dr Garret, Professor Emeritus of Psychology at Columbia University, maintains that the proofs adduced justify that conclusion.

It is best to report in their entirety the words with which Doctor Shuey sums up her results:

The remarkable consistency in test results, whether they pertain to school or pre-school children, to high school or college students, to drafts of World War I or World War II, to the gifted or to the mentally deficient, to the delinquent or criminal; the fact that the colored-white differences are present not only in the rural South and urban South, but in the border and northern areas; the fact that relatively small average differences are found between the IQ's of northern-born and southern-born Negro children in northern cities; the evidence that the tested differences appear to be greater for abstract than for practical or concrete problems; the evidence that the differences obtained are not due primarily to a lack of language skills, the colored averaging no better on non-verbal tests than on verbal tests; the fact that differences are reported in all studies in which the cultural environment of the whites appeared to be

* *The Testing of Negro Intelligence*, by Professor Audrey M. Shuey. J. P. Bell Company, Inc., Lynchburg, Va., 1958. Pp. 351, 12 tables. \$4.00.

no more complex, rich or stimulating than the environment of the Negroes; the fact that in many comparisons (including those in which the colored appeared to best advantage) the Negro subjects have been either more representative of their racial group or more highly selected than have the comparable white subjects; all point to the presence of some native differences between Negroes and whites as determined by intelligence tests.

Dr Shuey's volume assumes particular importance when we bear in mind the uncertainties and discrepancies which are regularly encountered, with respect to this material, among specialists.

It is useful to recall with respect to this point that in 1950 Unesco instituted a commission of specialists, whose task it was to formulate a "Statement on Race." It was edited by Professor M. F. Ashley-Montague and immediately aroused considerable protest, particularly on the part of geneticists who contended that they had not been adequately consulted in its preparation.

A second commission was formed by Unesco composed (with the exception of the aforementioned editor of the first manifesto) of different specialists, who delivered in 1951 a second statement, of which the editor was Professor L. C. Dunn. This, however, did not distinguish itself notably from the first statement. We will here limit our citations to that second manifesto.

In that, it is maintained:

Available scientific knowledge provides no basis for believing that the groups of mankind differ in their innate capacity for intellectual and emotional development.

More categorical still are the pronouncements concerning mental tests:

When intelligence tests, even non-verbal, are made on a group of non-literate people, their scores are usually lower than those of more civilized people. It has been recorded that different groups of the same race occupying similarly high levels of civilization may yield considerable differences in intelligence tests. When, however, the two groups have been brought up from childhood in similar environments, the differences are usually very slight. Moreover, there is good evidence that, given similar opportunities, the average performance (that is to say, the performance of the individual who is representative because he is surpassed by as many as he surpasses), and the variation round it, do not differ appreciably from one race to another.

With respect to these conclusions serious protests were raised by specialists to whom they were submitted.

The mental tests, those used until now, were declared unsuitable for international comparisons.

In point of fact it was held that, since not one single experiment—in which two groups of individuals selected from two diverse races, having been raised since childhood in similar environmental circumstances and subsequently subjected to mental tests—had been conducted, the declarations above reported can be considered without foundation.

With respect to the comparisons of the mental capacities of the various races—which have been considered substantially equal—it was observed, as I have also observed, that it is not likely that human groups, which display innate differences for all the physical and psychical characteristics which have until now been studied, should reveal themselves substantially equal with respect to mental and emotional capabilities. Moreover, one could add, mental capabilities result from a multiplicity of factors and display varied bearings; therefore, it would seem doubtful that they would be identical in diverse subjects.

Does Professor Shuey's volume furnish the basis, until now lacking, to establish the existence of innate racial differences even in the sphere of mental abilities?

In my opinion it is probable that the volume will arouse objections and discussions because the techniques and the employment of mental tests involve, for the time being, very subjective elements—but in any event it is possible to say that, because of the abundance of the material collected and objectively reported, the volume constitutes a mile stone in this area. After its publication the burden of proof rests upon those who maintain the non-existence of the stated differences.

In discussions in which experimental evidence leaves room for subjective interpretation some help may be forthcoming from theoretical considerations; and this, I believe, is the case here.

I contend, in fact, that one can formulate the following theorem:

If, in a stable environment, two groups of individuals differentiate themselves by virtue of a character which, at least in part, is hereditary and which, at least in one of the two groups, is subject to natural selection, the differences observed between the two groups are, at least in part, innate.

If for the two groups the environment (taken in the broadest sense of physical and social environment) is identical, the differences of character between the two groups cannot depend upon the environment and therefore must be innate.

If the two groups live, instead, in diverse environments, and in both or at least one of these, the characteristic considered is

subject to natural selection, this will eliminate certain particularities of character and favor others—and in a different manner in the two groups—and if these differences are in part hereditary, there will result, in successive generations, between the two groups, to a certain degree, innate differences.

This is the qualification that the environment remains stable in such a fashion that heredity and natural selection have had the time to exercise their influence.

Now, intelligence is certainly, in man, as attested by both everyday experience and experiment, a characteristic in part hereditary, and certainly it is subject to natural selection, in such a manner that the mental and emotional differences which are encountered with respect to various populations must be in part innate.

Therefore it can be said that, under the influences of natural selection, innate mental capacities differ among the various population groups.

To admit, among the various human groups innate differences is not the same as admitting that some group is by virtue of innate quality, superior, and some other inferior.

One cannot, however, exclude the possibility that one group finds itself inferior to another with respect to all the mental traits if it lives in an environment in which mental characteristics assume a minor, and physical characteristics assume a major, importance—in such a manner that natural selection would have favored the development of the latter to the disadvantage of the former. This might have been precisely the case with respect to Negro populations.

But it can happen (and this seems to be most frequently the case) that selection exercises itself upon mental characteristics not only intensively but selectively, in such a fashion that each group possesses the innate mental and emotional dispositions best adapted to the environment in which it lives.

This conclusion finds itself in accord with the results of studies on primitive populations.

According to the experience of those who have lived among primitives, civilized individuals surpass them with respect to the faculty of abstraction and with respect to numerical calculation with which they must be continually concerned—but primitives surpass non-primitives in the faculty of observation and geometric sense. Without being gifted with more acute senses primitives better judge distance, better appraise whether a given object can or cannot pass through a given passage. They distinguish at a distance details which escape the non-primitive; they recognize as belonging to a member of a given tribe an observed footprint

and they can determine from the imprint of an animal if the creature is tired or ill, whether it carried or did not carry a burden, if it was or was not mounted.

Even non-primitives, if adequately trained, can acquire these faculties, just as primitives, when instructed, can learn to count. But the fact that the one has need of instruction to do that which the other does without difficulty can well be interpreted as evidence of different innate dispositions.

From this it follows that while the primitives find themselves in a condition of inferiority in civilized society they are superior to non-primitives in their own environment. The evaluation of superiority and of inferiority, of one or the other group, is thus far subjective and, in fact, while the non-primitives regard the primitives as inferior, primitives regard the civilized as ignorant, uncultivated and immoral.

It would be interesting—and enlightening—to distinguish among mental tests, to which whites and Negroes are subjected, those which consider the abstractive faculty from those which consider the faculty of observation and, in particular, those which consider the arithmetic sense from those which consider the geometric sense.

Before concluding I should like to insist upon two points.

The first is that the development of intelligence is important for the success of an individual and a collectivity, but there are other qualities—among which are the disposition to labor, pertinacity, honesty, conformity or vice versa the inclination to independent thought, social solidarity, more or less easy contentability, optimistic or pessimistic temperament—which can have much more importance for the technical, economic and cultural progress of society.

The disposition to labor, in particular, as I have elsewhere illustrated,¹ has been, more than intelligence, the decisive factor in the progress of society from the animal level of production to the level, toward which it tends, of spontaneous labor.

So much more is it necessary to keep in mind the other factors when we realize that intelligence does not always accord itself with other favorable attributes; thus, there is a negative correlation between intelligence and the desire to know, on the one hand, and the disposition to conform, on the other.

The second point is that if, in the individual, intellectual capacity contributes to his success the higher its level, it does not follow that a society finds itself in a position correspondingly advantageous the higher the intellectual average of its members. That depends on the type of social organization. For each type of organization there is an optimum in the distribution of the various aptitudes.

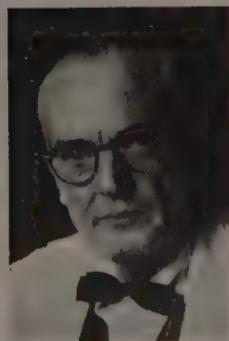
¹ Cf. C. Gini, "Caratteristiche e cause della primitività," *Genus*, v, 3-4, 1942; *Las Poblaciones Primitivas*, Suadernos de Extension Universitaria, Buenos Aires, 1955; *Economia Laboral*, Editorial Labor, Barcelona, 1954.

A small group of persons of high intellectual capacity, directing a mass of persons of lesser ability but given to work and conformity, could conceivably enjoy an advantage over a nation in which each member is gifted with superior intelligence and who, as a consequence, is little disposed to follow the orders of others without criticism or resistance.

This is one circumstance which must be kept well in mind in the judgment of the qualifications of nations in international competition.

Biographical Notes on Contributors

Owing to lack of space, Professor Corrado Gini's biography has had to be held over till the next number. Other biographies appear on pages 131 and 134.



John Scudder, M.D., F.A.C.S. (son of the Rev. Walter T. Scudder and Dr Ellen Bartholomew Scudder), born 28 October 1900 in Vellore, India. B.Sc. (Rutgers), M.D. (Harvard), Dr Medical Science (Columbia University) 1939, Dr Science (Rutgers) 1948. Dean, Miraj Medical School, India, 1932-33; Acting Surgeon-in-Chief, and Executive Officer, Scudder Memorial Hospital, Ranipet, India, 1934-35; Director, Blood Bank, Presbyterian Hospital, 1939; Assistant Professor of Clinical Surgery, Columbia University, College of Physicians and Surgeons, 1945; Director of Blood Bank, Francis Dealfield Hospital, 1950.

National Research Council Sub-Committee Blood and Blood Substitutes, 1940-42; American Bureau of Medical Aid to China, 1940-47; Consultant to Secretary of War, 1940, 1944; Consultant to Governor Rexwell G. Tugwell, Government of Puerto Rico, for establishment of Blood Bank, School of Tropical Medicine, Puerto Rico, 1941-42; Chinese Army Blood Bank, Kunming, China, 1945; Expert Medical Consultant, War Department 1945. Awarded Cravat Order Brilliant Star by Ambassador Wellington Koo, 1947. Member of Phi Beta Kappa Society; American Medical Association; American College of Surgeons; New York Academy of Medicine; Harvey Society; Allen O. Whipple Surgical Society; Scudder Association of America, Vice-President, 1952; Detroit Academy of Medicine.

Fifty articles to Surgical Journals, etc; Shock: Blood Studies as a Guide to Therapy, 1939; Shock Syndrome, Annals of New York Academy of Sciences, 1952.

THE XIXth INTERNATIONAL CONGRESS OF SOCIOLOGY

BY JAMES GREGOR

During the first week of September Mexico City acted as host to the delegates of the xixth International Congress of the International Institute of Sociology. Representatives from twenty-one Western nations participated, among whom were such notables as Professors Pitirim Sorokin, Leopold von Wiese and Robert MacIver. Professor Corrado Gini, President of the International Institute of Sociology, was in attendance and delivered the inaugural address as well as a communication entitled "The Outline of a Theory of Decolonization."

The International Institute of Sociology was born of, and nurtured in, the integralist tradition of classical European sociology and, as a consequence, while the Congress was a specifically sociological enterprise, a considerable number of the communications devoted themselves to an inter-disciplinary rapproachment.

Professors V. Castellano (University of Rome)¹ and C. E. Ferri (University of Pavia) illustrated an intimate relationship between economic and specifically sociological inquiries. D. G. Freedman (Langley Porter Neuropsychiatric Clinic)² and Professor J. P. Scott (Jackson Laboratories)³ emphasized the relationship between animal behavior and the human analogues of that behavior. The relationship between political science and sociology was drawn by Professors A. Povina (University of Buenos Aires)⁴ and C. C. Zimmerman (Harvard University)⁵. A socio-analysis of personality was undertaken by Professor H. El-Safty (Ain Shams University)⁶ tracing the relationship of psychology to sociology. Similarly, a relationship between philosophy and sociological inquiry was explored in the communications of Professor K. Pribram (formerly of the Brookings Institute)⁷ and A. Paredes (Central University of Quito).⁸

Of particular interest, here, is the considerable discussion which centered upon the intimate relationship between anthropology and sociology.

Professor C. E. Ferri contended that racial factors entered into the differential rate of economic growth observed in diverse sociopolitical groups.

Professor A. Lipschuetz (University of Sucre)⁹, in turn, was explicit in his rejection of "biological factors" in the explanation of the complex race relations which arose out of the contact of Europeans and South American aborigines. His principal contention was the familiar one that race differences do not constitute a cause of social distance but are latterly insinuated as a justification, a rationalization, of a class structure which serves the interests of an exploiting minority.

There is, here, of course, a serious question of priority. The paper delivered by D. G. Freedman indicated that the human analogue to the "flight response" in animals (which serves to preserve species identity) is the disposition of humans to preferential association¹⁰. Similarly, the communication delivered by the present writer¹¹ advanced the thesis that man shares with the social animals this native disposition to preferred association. Consequently, observable racial differences act as focal points for group orientation. Individuals socialized in a particular group come, ultimately, to favor members of that group to the more-or-less systematic exclusion of out-group members.¹² This serves to confine the breeding circle to specific "isolates," i.e., social, economic, political or religious communities of limited membership, thereby preserving the genic identity of local populations. The critical importance of this mechanism (social isolation) in maintenance of genetic diversity with respect to human populations—and the importance of this diversity in the microevolution of the species—has been developed by population geneticists¹³ and evolutionary theorists.¹⁴ Its importance in sociological theory construction is attested to by the work of Professor Gini himself.¹⁵

The thesis, advanced in the communications of Freedman and the present writer, was supported by Professor Michele Marotta (University of Cagliari) whose judgment is weighted by unimpeachable academic credentials and imposing scholarship.

As such, the thesis runs counter to the contention of Professor Lipschuetz (as well as the school he typifies) that race differences are insinuated into social theory as *a posteriori* rationalizations for exploitation of one class by another.¹⁶

The Freedman-Gregor thesis suggests that social distance is maintained because of a natural disposition on the part of individuals to preferential association (a disposition which is the analogue of similar animal behavior). The fact that economic or political benefit accrues to a given class through the operation of this disposition is a contingent and subsidiary feature of racial

preference and not its essential or determining characteristic—certainly not its cause.

The communication of Professor A. D. Weinberger¹⁷ provoked heated, if brief, discussion. He contended, in the course of his exposition, that manifest cultural differences did not rest upon racial or genetic differences. In support of this contention he cited the UNESCO *Statement on Race*, apparently unaware that a substantial number of specialists (including such scholars as Professors C. Coon, R. Ruggles Gates, C. D. Darlington, C. Gini, W. Scheidt H. Weinert, E. Fischer and F. Lenz) had taken serious objection to its conclusions.

When this was brought to Professor Weinberger's attention in the course of the discussion he simply repeated that the UNESCO *Statement* had "established" that no racial differences were to be found and that any reservation to this pontification was the result of "residual Hitlerism."

Since the Congress was conducted in Latin-American environs considerable time was devoted to the discussion of the dynamics of mestizo-white relationships. In point of fact the racial issue occupied a central position in the discussions of the delegates.

The proceedings of the XIX International Congress established, with some certitude, several very important considerations:

- (1) That racial issues are very much alive in sociological theory construction;
- (2) That considerable obscurity and confusion bedevils social science with respect to the race question;
- (3) That *a priori* ethical or political considerations very often detract from the objectivity of speculative and empirical sociology; and finally,
- (4) That considerable data of substantial scientific importance is unknown, for one reason or another, to a surprisingly large number of social scientists.

The fact that legitimate controversy has, once again, become possible at all in these areas augurs well for the science of society. That instances of a lack of academic detachment and academic etiquette were notable in their intensity, if not in their abundance, does not alter the fact that significant progress was made toward restoring the lost equilibrium of serious social inquiry.

Credit for this particular substantial achievement goes, almost exclusively, to Professor Corrado Gini whose academic stature,

personal integrity and initiative, made the Congress the notable success it was.

Dr Jaime Torres Bodet, the Mexican Minister of Public Education, served as Honorary President, while the immediate organizational work was undertaken by the diligent and resourceful Me. Carlos Echanove T., and Me. Hector Solis Quiroga.

1. "Sviluppo demografico e sviluppo economico nelle società moderne: meccanismi di auto requilibrazione." "
2. "The Flight Response and Critical Periods in Social Development," *Mémoire du XIXe Congrès International de Sociologie* (Mexico: Comité Organisateur du XIXe Congrès International de Sociologie, 1960), II, pp. 39-53.
3. "The Process of Socialization in Animal and Human Societies," *Ibid.*, pp. 237-244.
4. "Relación Sociopolítica Entre Sociedad de Masas y Grupos de Presión," *Ibid.*, pp. 203-212.
5. "Family Systems and Revolutions," *Ibid.*, pp. 365-378.
6. "The Socio-Analysis of Personality," *Ibid.*, pp. 225-236.
7. "Observations on the Influence of Philosophical Principles on Social Organization," *Ibid.*, pp. 213-224.
8. "El Porvenir de la Filosofía y los Métodos Sociológicos," *Ibid.*, pp. 161-172.
9. "Invalidez Explicativa del LLamdo Factor Biológico en el Encuentro Entre Blanco e Indio en la Conquista Española de América," *Ibid.*, pp. 107-134.
10. Freedman, *op. cit.*, p. 50.
11. A. J. Gregor, "Sociology and the Anthropobiological Sciences," *Mémoire*, II, pp. 83-106.
12. Cf. C. Gini, "Dell'abitudine," *Stato Sociale*, No. 3, 1960, p. 242.
13. Cf. E. Colin, *Elements of Genetics* (New York: McGraw-Hill, 1956), pp. 293 f.
14. L. Dunn, *Heredity and Evolution in Human Populations* (Cambridge: Harvard, 1959), pp. 90 f.
15. Cf. C. Gini, *Corso di Sociologia* (Rome: Ricerche, 1957), pp. 146-158; *Nascita, evoluzione e morte delle nazioni* (Rome: Littorio, 1930).
16. Cf. O. Cox, *Caste, Class and Race* (New York: Doubleday, 1948); M. Ashley Montagu, *Man's Most Dangerous Myth* (New York: Harper, 1952).
17. "The Dynamic Status of the Negro Population in the United States," *Mémoire*, II, pp. 309-325.

Obituary

PROFESSOR KAARLO HILDEN

On 15th July 1960, Professor Kaarlo Hildén died in Tammerfors, Finland. He was born in Helsinki on 28th September 1893, graduated from high school in 1911, became Bachelor of Arts in 1915, and Licenciate as well as Ph.D. in 1920. In 1916-1918 he was an Assistant at the Helsinki University Zootomic Institute, and in 1916-1919 teacher in natural history at a Helsinki High School. In 1918-1924 he was employed by the Finnish Encyclopedia Tietosanakirja Oy, and in 1924-1928 by the publishing house Werner Söderström Oy. In 1921 he was appointed Professor of Economic Geography at the Helsinki School of Business, and in 1926 Special Lecturer in Geography at the Helsinki University. He was also Acting Professor of Geography at Helsinki University in 1929-1931 and 1946-1949. He was elected Assistant Dean of the Helsinki School of Business in 1939 and its Dean in 1952, maintaining this position until 1957. In 1953-1954 he was Acting Chancellor of the same University.

Professor Hildén made scores of trips to Scandinavian and other Baltic countries as well as to Central and South Europe for studies, taking part in congresses, or giving lectures. In 1914 he made a scientific expedition to the Altai Mountains; in 1921 to the island of Runö in the Baltic Sea, and in 1950 to the U.S.A. and to Cuba.

In addition to his professional duties, Professor Hildén filled several positions of trust. In 1922-1924 he was Notary of the Finnish Geographical Society; in 1927-1950 Member of the Board and Secretary of the same Society, and in 1958-1959 its Chairman. He was Member of the Board of the Finnish Tourist Association in 1935-1940, and was a member of the "Norden" Association (furthering cultural exchange between Finland, Sweden, Denmark and Norway); member of the Board of the Finnish Academy, General Secretary of the Naturalists' Meeting of the Northern Countries in 1936, and was Chairman of International Congresses of Anthropologists. From 1957 onwards he was Chairman of the Finnish-Spanish Society.

Professor Hildén published several books and scientific studies. After his academic thesis in 1920, "Anthropologische Unter-

suchungen über die Eingeborenen des russischen Altai," Professor Hildén published about 40 other anthropological studies. His book called "Maapallon esihistorialiset ja nykyiset ihmisroduut" ("Present and pre-historic human races on Earth") became very popular and is still included in the syllabus of the University. The same may be said about his book "Yleinen talousmaantiede" ("General Economic Geography"), which was published in 1924 and as a revised edition in 1949. Further, Professor Hildén published numerous articles about various subjects in magazines and other publications. In 1922-1940 he was editor of "Terra," the magazine of the Finnish Geographic Society. He was co-editor of "Suomenmaa," a popular work in ten volumes about Finland, and chief editor as well as manager of the Finnish Geographic Handbook published in 1936. He was also editor of a map of the Earth published in 1935, and of the work by the Marshal of Finland C. G. Mannerheim, "Across Asia from West to East."

From 1920 Professor Hildén was an active member of the Finnish Geographic Society, from 1929 a member of the Finnish Academy of Science and Letters, and from 1930 a member of the Finnish Scientific Society. In 1953 he received the honorary degree of Doctor of the Science of Business Economics. He was an honorary member of several scientific societies abroad.

Professor Hildén was a person of outstanding culture, richly endowed by nature and with a talent embracing several fields. As a scientist he was one of the best in his country: he was its leading anthropologist and anthropogeographer. He was also, however, a practical man who could always be counted upon for arduous and important organizational work or commissions of trust. As a teacher he made a substantial and valuable contribution.

BIOGRAPHICAL NOTES (continued)

A. James Gregor. B.A. (History), Columbia University; M.A. (Philosophy), Columbia University. Instructor, Social Studies, 1952-58; Irwin Edman Scholar, Columbia University; Reader, Philosophy Department, Columbia University; Instructor, Philosophy, Washington College, Maryland. Secretary, International Association for the Advancement of Ethnology and Eugenics; Member, International Institute of Sociology. Paper before XIXth International Congress of Sociology; participant, 56th Annual Congress, American Philosophical Association. Author, numerous articles, for such publications as *Sociology and Social Research*, *Genus*, *Sociologus*.



OUR CONTEMPORARIES

THE PSYCHOLOGICAL RECORD

A Quarterly Journal in theoretical and experimental psychology.
Published at Denison University, Granville, Ohio.

Vol. X, No. 2, April 1960

Contents: A Thesaurus of Techniques and Variables, by Thomas B. Sprecher; Performances of Psychiatric Patients in a Brief Operant Discrimination Test by Donald H. Bullock; Sociometric Choice Status, Empathy, Assimilative and Disowning Projection by Marvin N. Lewis and Bernard Spilka; Alternation in the Human Stylus Maze by Richard H. Lawless and Raymond D. Engstrand; Extended Unpaced and Paced Work on the Pursuit Rotor by R. Dale Nance; On the Accuracy of Written Recall: A Scaling and Factor Analytic Study by David J. King; Monocular Contour Perception Under the Influence of Prior Stimulation of the Contralateral Eye by W. L. Gulick; Perspectives in Psychology: XIV Psychology in the Liberal Arts Curriculum by Parker E. Lichtenstein; Monocular Regard and Decrement to the Müller-Lyer Illusion by Paul T. Mountjoy; Book Reviews, etc.

Vol. X, No. 3, July 1960

Contents: Three Biologically Independent Siblings by John A. Popplestone and Mare Lundell; How Many Women Live to be Centenarians? by S. George Santayana; The Case of Slansky of Czechoslovakia by Karl Hulicka and Irene M. Hulicka; Achievement Motivation: An Adlerian Approach by William P. Angers; Perspectives in Psychology: XV History of Science as Scientific Method by J. R. Kantor; An Analysis of Questions on Sex by Wardell B. Pomeroy; Additional Observations on Scoring the Accuracy of Written Recall by David J. King and Duana P. Schultz; A Psychoanalytic Interpretation of Sensory Deprivation by Marvin R. Goldfried; Experimental Demonstration of the Fallacy of Certainty by John A. Barlow; Fixation and Decrement to the Müller-Lyer Figure by Paul T. Mountjoy; Book Reviews, etc.

BRITISH MEDICAL JOURNAL

Journal of the British Medical Association. Published by the British Medical Association, Tavistock Square, London, W.C. 1.

14th May, 1960

This has two articles which have bearing upon heredity—Smoking and Personality by H. J. Eysenck, Mollie Tarrant, Myra Woolf, and L. England; and Inheritance of Essential Pentosuria by P. D. Roberts.

RACE

Published twice yearly by the Oxford University Press, London, E.C.
Price 10s.

Vol. I, No. 1, November 1959

This is the Journal of the Institute of Race Relations and contains: Sociology in Race Relations by Michael Banton; History and Race Relations by H. S. Deighton; Psychological Factors in Prejudice by H. V. Dicks; An Approach to Race Relations by Philip Mason; Central Africa: The Race Question and the Franchise by B. T. G. Chidzero; Political Development in British Central Africa 1890-1956 by Alan Taylor and Eugene P. Dvorin.

Vol. I, No. 2, May 1960

Contents: Coloured People in Post-War English Literature by Harold Pollins; Applied Social Science and Public Policy Concerning Racial Relations by Anthony H. Richmond; A Recent West Indian Immigrant Group in Britain by Sheila Patterson; Biology and Human Variation by N. A. Barnicot; Modifications in the Civil Law of Southern Rhodesia by Philip Mason; The Mind of the Literate African on the Copperbelt as seen in Letters to *Luntandanya* by Rex Harris; Some Greek Stereotypes of Other Peoples by Donald Wood.

GENUS

Organ del Comitato Italiano per Lo Studio Dei Problemi Della Popolazione e della Società Italiana di Genetica ed Eugenica.
Editor: Corrado Gini, Via Delle Terme di Diocleziano, 10, Rome.

Vol. XIV, Nos. 1-4, 1958

Contents: La localizzazione della Vinlandia by C. Gini; The Logic of Race Classification by A. J. Gregor; Progresso o decadenza? by Olivia Rossetti Agresti; Voci di natura e di civiltà diverse nel parlare degli Italiani by Giulio Curato; La Scuola Storico-culturale by C. Gini; Reviews, etc.

Vol. XV, Nos. 1-4, 1959

Contents: Sull'attendibilità delle rilevazioni del colore degli occhi e dei capelli by Corrado Gini; Placido Eduardo Nicolicchia: I—La situazione demografica del Comune di San Giovanni Incarico; II—La situazione demografica del Comune di Ceccano; III—La situazione demografica del Comune di Ricigliano (Prov. di Salerno); Reviews, etc.

THE EUGENICS REVIEW

Journal of the Eugenics Society, 69 Scobleton Square, London, S.W.1
Price 5s.

Vol. LII, No. 2, July 1960

Contents: The Output of Scientists in Scotland by Robert H. S.

Robertson; Biological Fitness in Man by C. B. Goodhart; A Proposed Standard System of Nomenclature of Human Mitotic Chromosomes; Galton's Heritage by Eliot Slater; Migrations to and from the United Kingdom: Some Facts; Reviews, etc.

The paper by Mr Robert H. S. Robertson on The Output of Scientists in Scotland is of particular interest from a point of view of racial and eugenic heredity.

THE ANTHROPOLOGIST

Published by the Department of Anthropology, University of Delhi.
Vol. IV, Nos. 1 & 2, March and August 1957

Contents: Finger Dermatoglyphics of the Bhils of Rajasthan by Dr P. C. Biswas; The Inheritance and Distribution of Mid-Digital Hair among the Parsi Community in India by J. D. Mavalwala; Koregaon—the Mid-Palaeolithic cum Chalcolithic Site on R. Bhima (Maharashtra) by A. Prakash Khatri; Notes on Palmar Main-Line Index and Transversality by Abhimanyu Sharma; A Genetic Survey of ABO Blood Group among the Punjabis by Swadesh Anand; Marriage and Divorce among the Eastern Bhotias by R. P. Srivastava; Inheritance of Secretor Factor and the Frequency Distribution of the Secretor Gene among the Punjabis by J. C. Sharma; Reviews.

THE THIRD JOHN G. GIBSON II LECTURE

College of Physicians and Surgeons, Columbia University, 28th April 1960.

Blood Groups and Human Genetics by R. R. Race. Lecture sponsored by Fenwal Laboratories, Framingham, Massachusetts.

BIOGRAPHICAL NOTES (continued)

Frank G. J. McGurk. Born in Philadelphia, 26 May 1910, of Scottish and Irish parents. Educated at University of Pennsylvania (B.S. in Economics 1933; M.A. in Psychology 1937) and at Catholic University (Ph.D. in Psychology 1951). Was clinical psychologist until World War II, served in the army from 1942 to 1945, and then entered university teaching. Present academic rank Associate Professor of Psychology. Eight publications in the field of race differences.



Robert Kuttner holds Doctorate of Zoology of the University of Connecticut. Research worker in biochemistry and brain physiology. Interests in psychology, race history, and political science. At the present time engaged in research on the influence of drugs on brain function, at the Institute of Living, Hartford, Connecticut.

Book Reviews

NATURE AND MAN'S FATE

By Garrett Hardin. Rinehart & Co., 1959. Price 25s.

This book contains three major themes, and none is a simple one. Moreover, no theme occupies a set order in the book, or a set number of pages. Although the first five chapters are concerned with evolutionary theory and Charles Darwin, it does not end there. It keeps going, and in the next four chapters, it blends with Johann Gregor Mendell's genetic theory, and the more recent outgrowths of these fortunate observations on the pea plant.

The last four chapters contain the author's final theme. Some reviewers have labeled the ideas contained in this theme as irresponsible speculations, but whether they are or are not is up to the reader. To this reviewer, this theme gathers together the first two themes and describes not only the already-observed effects of natural selection and genetics, but suggests future possible effects of these two forces. Some of the future effects suggested by the author are indeed speculative, but with a tantalizing flavor. Perhaps their tantalizing presentation does make them irresponsible.

The author presents the evolutionary theory as the ideas of many thinkers which came together and jelled in the mind of Charles Darwin many years before he was able to push aside his Victorian prejudices and publish. Hardin has presented an excellent picture of Charles Darwin in terms of his grandfather, Erasmus, from whom he apparently learned intellectual rebellion, and his father, Robert, from whom he learned that Grandfather Erasmus was not the most appropriate progenitor for a cultured Victorian. If these two forces established a neurotic pattern of behavior in Charles Darwin, he made excellent use of Hooker, the botanist, and Lyell, the geologist, in working out his conflict. Then, of course, there was Alfred Russell Wallace whose own observations led precisely to the evolutionary theory on which Darwin had been sitting, in deep and troubled conflict, for some twenty years. It was because of Wallace's work that, in July of 1858, he and Darwin finally published the evolutionary theory jointly. Darwin has had these ideas in manuscript form since 1842.

The story of Mendel is simpler, probably because he was not a Victorian. He was a Moravian peasant's son. He took Holy Orders in the Catholic Church. He was a failure as a parish priest, and later as a teacher. As a researcher, he shook the world.

The story of Mendel and the theory of the genes is just that simple, and this may be why Mendel's work was not acclaimed in his lifetime. Contrary to some stories, Hardin reports that Mendel's work was not hidden in the library of his monastery. In 1865, Mendel described his work and theory to the Brünn Society for the Study of Natural Sciences. That group apparently could understand neither the work nor the theory. Neither could the eminent professor of biology at the University of Munich, to whom Mendel sent a copy of his paper. Instead, Naegeli selfishly and stupidly urged Mendel into a study of the hawkweed, a problem irrelevant to Mendel's original work.

Thus, because of Naegeli's lack of understanding, Mendel not only dropped his fruitful work on the pea plant, but had only one opportunity to present his theory to the world. Hardin considers this a scientific catastrophe; Mendel was an able researcher, and he saw more deeply into the problems of speciation and environmental adaptation than Darwin. Darwin, by 1868, had seen the shortcomings of his evolutionary theory but was powerless to produce a better theory. In desperation, he accepted the theory of pangenesis of Lamarck which, some years earlier, he had taken pains to denounce as nonsense. Strangely, Darwin seems to have been ignorant of Mendel's work, although Mendel knew Darwin.

Hardin's description of Mendel's theory is simple and delightful, and he weaves it in with a discussion of Darwin's failure to make a complete theory of evolution. This should be read—not talked about. So should the story of the "rediscovery" of genetics by De Vries, Correns, and Tschermak—each independently—in 1900.

The remainder of the book contains the author's ideas about the past and future effects of the forces about which Darwin and Mendel wrote. There is a long discussion of the eugenics movement which, the author believes, ended in 1932, and which, the author seems to believe, had to end in failure because of its emphasis on negative eugenics. There then follows an excellent discussion of genetics among Communists—not only those in the Soviet Union but those elsewhere. The account of Lysenko's destructive influence on genetic science is full and interesting.

In his presentation of modern genetics and selective value, Hardin sometimes presupposes more knowledge of genetic principles than his average reader is apt to possess. His discussion of the Hardy-Weinberg Law, and the Sewell Wright effect is apt to be lost on the neophyte. On the other hand, Hardin's treatment of the concept of the "fittest" is excellent—not only verbally but graphically. Here, even the reader who has never before heard of genetics should be able to understand that there is no "fittest" in the absolute sense; the "fittest" is that organism which possesses those genetic traits that permit it to survive in some kind of physical environment. How many such trait-combinations-and-physical-environments there are is not known, but the author thinks that there must be an astronomical number.

Hardin emphasizes that selection (or adaptation) is opportunistic; the environment to which the organism adapts is not something which the organism deliberately seeks, nor are the genetic trait-combinations possessed by an adapted organism created by the physical environment to which it adapted. An organism adapts whenever and wherever it can, and evolution proceeds in this opportunistic fashion. Thus, it is impossible to say that evolution proceeds upward or downward, or that it improves or degenerates. Biologically, it simply happens. In our present social state, we are apt to look on the biological happenings of the past and assign social words of approval or disapproval to what has occurred. This makes no difference; the evolutionary process goes on. It will continue to happen with or without social approval.

It is not until the last chapter (Chapter 13) that the book begins to tire. In the first reading, one feels that he has read Chapter 13 before. In the second reading, one is sure of the repetition, although the author has placed different emphasis on the repeated material. This reviewer feels that no damage would have been done to this delightful book if the author had had a superstition about the number 13.

FRANK C. J. McGURK.

INDIA'S NORTH-EAST FRONTIER IN THE NINETEENTH CENTURY

By Verrier Elwin. Oxford University Press, 1959. Pp. 473, 12 illustrations, sketch-map. Price 50s.

This work is in the form of an anthology, and consists of quotations from 19th century writers, explorers, administrators, missionaries, planters and others, as they wrote about the peoples of this part of India, in the journals of learned societies, in official documents, and in books, many of which have been long out of print. It also contains an introduction by the author. It is a useful book, giving as it does a comprehensive view of the north-east frontier at this period where, while much has remained the same, much has also changed. As the writer has been for some time Adviser of Tribal Affairs to the North-East Frontier Agency Administration it is evident that the excerpts of which the book is made up have been chosen with care to give a comprehensive presentation of the region.

N.

CLASSICAL PAPERS IN GENETICS

Edited by James A. Peters. Prentice-Hall International Inc., London, 1959. Pp. 282. Price 30s.

This well-edited volume contains 28 papers, each of which is regarded as marking a fresh step in the development of genetics. Beginning with Mendel's historical paper (1866), Johannsen is quoted on "pure lines" (1903), and in the same years Sutton, a student of A. B. Wilson, pointed out that the chromosomes in meiosis furnish a possible basis for Mendelian segregation, citing the contemporary similar conclusions of Guyer. The work of Bateson and Punnett on the interaction of two pairs of factors in the combs of fowls and the colours of sweet peas is cited next, followed by Hardy's law of Mendelian proportions in mixed populations, on which (with Weinberg) the modern population genetics is founded.

We have now reached the year 1910, when the publications of Morgan and his students, Sturtevant, Muller and Bridges with *Drosophila*, began. The later papers since 1930 have become increasingly technical, and lower organisms such as *Neurospora* and bacteriophage have gradually become the basis for conclusions regarding the nature of the gene. For this period only American work is cited, with the exception of Watson and Crick (1953) on the structure of the DNA molecule in the chromosomes.

Probably an equally significant series of papers could be selected from German and French work, not necessarily marking the same steps. Lack of space may have prevented the citation of a similar series of papers dealing with cytological discoveries such as triploidy, tetraploidy, trisomy, non-disjunction, chiasmata and chromosome structure.

R. R. G.

A GUIDE TO PREHISTORIC ENGLAND

By Nicholas Thomas. Batsford, London, 1960. Pp. 268. 69 figures. Price 30s.

This is an extremely useful work which briefly gives information concerning every important prehistoric site in England. There is in addition

a useful Introduction. It is therefore a work of reference which should be on the bookshelves of all prehistorians and anthropologists whose work has to do with the southern half of Britain. Since, however, prehistory is no respecter of national frontiers it is hoped that this work will be extended to cover both Scotland and Wales in the same admirable manner.

A.

APOLOGIES TO THE IROQUOIS

By Edmund Wilson. *WITH A STUDY OF THE MOHAWKS IN HIGH STEEL* by Joseph Mitchell. Pp. 310, 15 plates. W. H. Allen, London, 1960. Price 36s.

This book gives an account of the nationalist movement among the Iroquois at the present time, and shows how they are being compelled to resist the pressure not only of modern American and Canadian ways of life, but the pressure of the public authorities to take their lands, and subordinate them to Canadisation and Americanisation respectively. The writer contends their treaty rights have been shamefully ignored, and over-ridden. As a consequence of this some of the Amerind leaders have been driven to make contact with Fidel Castro, and are looking for outside assistance, following the failure of appeals to the Queen, to the United Nations, to the American President, and what would appear to be scarce than the justice which they have so frequently experienced in the litigation which has arisen from these causes.

What is of considerable interest is that the resistance of the Indians is to de-segregation, and it is the set policy of both the Canadian and the American Governments to impose it, against the will of the Indian peoples. It is usual to acclaim de-segregation policies as righteous, liberal, and in every way beneficial to the under-privileged ethnic group. This is a case where such reasoning is clearly disproved.

A.

ARCHAEOLOGY IN THE HOLY LAND

By Kathleen Kenyon. Benn, London, 1960. Pp. 326, 56 plates, 66 text figures. Price 36s.

This book deals with the period from about 8000 B.C., that is from the beginnings of settled life in the Neolithic. Many gaps in the written sources are filled by archaeological work which is admirably summarised by Miss Kenyon, who is the Director of the British School of Archaeology at Jerusalem. The book is particularly useful because it is carefully written, being the result of many years of painstaking work and revision, and it does attempt to make correlations between changes in artefacts and the various ethnological successions in the region, such as the invasion of the Hykos, the Amorites, the Hebrews, the Philistines, and other Sea Peoples.

It is therefore a work of wider interest than just an understanding of Biblical times—and covers the whole field from the post Palaeolithic to the fall of the Hebrew Kingdoms. It is a necessary work for an up-to-date appreciation of successive cultures within the periods mentioned in Palestine.

N.

Edited by Archie and Nan Clow. Penguin Books. Pp. 133.
Price 2s 6d.

This series of little books has several unique features. We will only say that anyone who picks this number up will find articles of much interest on a diversity of scientific topics, with the latest developments included. In this number topics range from infra-red spectroscopy to jute, microbes in industry, and aerial archaeology.

THE SOVIET DEPORTATION OF NATIONALITIES

By R. Conquest. Macmillan, London, 1960. Pp. 204. 6 maps.
Price 30s.

This book deserves that its contents should be widely known. It describes the manner in which the Soviet Government ordered the deportation of entire and helpless minorities in southern European Russia. It is essential to all those who need to keep up to date on Russian ethnology, and for others it is important as it throws light on the ruthlessness of Russian policy, its drastic methods, and its deliberate suppression of truth. It contrasts sharply with Russian protestations where other colonial peoples, who are under a benevolent guidance of humane western nations are concerned. Genocide appears in a greater or lesser degree to be a deliberate policy of both the great Communist powers against peoples who stand in their way and are entirely under their power. One wonders what would be the fate of the Negroes of Africa if either were installed in power in Africa!

HISTORY AND THE HOMERIC ILIAD

By Professor Denys Page. California University Press, 1959.
Pp. 350, 14 maps and plans.

This is a very readable and well-written work by Professor Denys Page of Cambridge University. It is useful for ethnologists as it discusses the Achaean in the Hittite Document, and it shows the development of the history of Troy with the eventful change in culture as it was occupied by an Indo-European people, at the same time, or thereabouts, as the Achaeans were settling in Greece. In other words they were part of the same general movement from the north-east of Aryan folk. Professor Page deals at great length with the background of the Trojan War, the Homeric description of Greece, and the documents from Pylos and Cnossos, and the Mycenaean relics in the Iliad.

The result of this is to show that the Siege of Troy was a reality, and it refers to the Mycenaean period, all direct knowledge of which was lost by the time the accounts of it came to be written down in their present form. The reason why the direct knowledge concerning this war was lost was due to the fact that the Dorians had invaded Greece and they produced a rural civilization, which initiated a Dark Age.

One may conclude that the Mycenaean was a combination of the original Mediterranean civilization with a super-structure of Aryan settlers of Achaean origin, whereas the later Dorian was largely Aryan only.

The notes to each chapter are extensive and extremely useful as well as interesting. This is a basic work on this subject which cannot be neglected.

R. G.

ANAIS DA I REUNIAO BRASILEIRA DE GENETICA HUMANA.

Genetics Laboratory, University of Paraná, Brazil, 1959. Pp. 161.

This book is a report of the Conference on human genetics held at the University of Paraná, Brazil, in 1958 with financial aid from the Rockefeller Foundation. The six sections were concerned with respectively (1) biological effects of radiation, (2) medical genetics, (3) blood groups, (4) population structure (consanguinity), (5) isolates and races, (6) general themes of human genetics. The 36 papers cannot be reviewed here, but it may be pointed out that the unique Brazilian family showing achairiopodia has now been extended to 30 cases in nine families, showing the wide dispersal of the gene in Eastern Brazil.

R. R. G.

THE EARTH WE LIVE ON

By Ruth Moore. Pp. 348. 16 plates, text diagrams. Cape, London, 1959. Readers Union Price 14s.

The book is largely a synopsis of geological discovery to date. Nevertheless it has two opening chapters on Myth and Reason, the second of which is devoted to the Great Flood and correlates this with Sir Leonard Woolley's excavations at Ur. This, however, may be a too obvious identification, as the deluge stories are widespread, and the Noachian, despite obvious borrowings from the myth of Babylonia, has elements which it shares in common with Indian tradition. The last chapter, on the age of the earth, and man's part therein and that part which deals with modern methods of dating, as well as the shifting of the Poles, which are associated with ice advances and recessions are all useful synopses, directly or indirectly of interest and relevance to anthropologists and prehistorians.

HUMAN BIOCHEMICAL GENETICS

By Dr H. Harris, with foreword by Professor L. S. Penrose. Cambridge University Press, 1959. Pp. 310. Price 37s 6d.

Human biochemical genetics may be said definitely to have begun with the discovery by Garrod in 1902, in the earliest days of genetics, that alkaptonuria is inherited as a simple Mendelian recessive. For many years the development of this field proceeded very slowly, but more recently the stream has developed into a torrent of discoveries regarding the blood groups, sickle cells, forms of haemoglobin, haptoglobins and plasma proteins, as well as the many inherited disorders of metabolism now known. This is all summarised in the present volume, in which the author also records important personal discoveries. In blood groups, only the ABO and secretor and Lewis substances are considered, but throughout the book much biochemical and clinical information is given. In the last chapter, on the problem of gene action, the gene-enzyme hypothesis is discussed, and recent developments connected with the work of Watson, Crick and Ingram.

R. R. G.

A HISTORY OF GREECE TO 322 B.C.

By N. G. L. Hammond. Clarendon Press, Oxford, 1959. Pp. 689, 34 figures, 12 plates. Price 35s. net.

This is an invaluable comprehensive work in connection with Greek history. It has the advantage that, being a modern book, it starts with the early civilizations of Greece and the great migrations as well as the geography of the Greek Peninsula and islands. As a consequence of this it describes the proper background against which to understand the history of Greece. It does not neglect to set out a table of the various stages of civilization from the Neolithic, before 3000 B.C., down to the historical periods of Greece. There is a useful chapter on the settlement of the Aegean Islands and Minoan Civilization—and its origins.

The writer is quite correct in pointing out two facts—that in the third millennium B.C. the Mediterranean racial type in the South, and the intrusive Nordic type coming from the North, are distinct, and remain as pure races unmixed with the brachycephalic peoples intrusive from the Anatolian Plateau, although, naturally enough, intermingling ultimately followed the contacts. He stresses that the Nordics on their entry into the Greek lands were unfamiliar with the sea, which is what we would expect, having the inner-Asiatic origin of the Nordics in mind. He also stresses that they revered the male side of life and they were warlike, and probably introduced the horse into the Balkans. He associates the Megaron type of house, the stone battle-axe, the phallic figurines, the spiral design on the pottery, and the horse with these intrusive Nordic Indo-Europeans. His suggestion, however, that the Indo-European languages developed in Central Europe, would appear to need revision in the light of evidence which places the origin of the Aryan peoples, and the Nordics who were the chief carriers of this civilization, further to the east.

He sees evidences of the survival in Greek of a pre-Greek language among place-names ending in -ssos or -tos, -inthos, -indos, and so on, as well as in words for sea and the like. These he associates with the Mediterranean race.

With the coming of the Middle Bronze Age 1900 to 1600 B.C. we see the development of the Minyan in Greece, and there is a probability that it is associated with an invading Nordic people of Greek origin who overran the country in the east and from whom there came about a mingling of the Mediterranean and the Nordic stocks.

The writer recalls to our mind that in the geography of the Homeric poems the Cimmerians lived to the north and the Pygmies lived near the ocean stream at the southern limit of the world. This seems to indicate that as early as that period a recognition of Pygmies among the black races was already well-established in Greece. The author suggests that the concept of the world as flat with the ocean all round it was gained from the knowledge of the Atlantic, the Black Sea, and the Red Sea. This, however, is rather doubtful as this conception is common to all the Aryan peoples, and seems to have been worked out at a much earlier period when they were in inner-Eurasia.

This is an altogether useful book for all who want to have a better appreciation of Greek history and the development of the Hellenic civilization.

R. G. of G.

AN INTRODUCTION TO BIBLICAL ARCHAEOLOGY

By G. Ernest Wright, assisted by Roger Tomes. Gerald Duckworth & Co. Ltd., 3 Henrietta Street, London, W.C.2, 1960. Pp. 198. Price 12s 6d.

This book by Professor G. Ernest Wright, Harvard University, is a condensed version of his larger work on Biblical Archaeology, 1956.

It is a useful book, and it contains some advances on views frequently expressed in the older books on the origins of the patriarchs. For instance, it quite rightly clearly abandons any concept of the patriarch arising in Babylonia, at the Ur of Sir Leonard Woolley, and also doubts the question of the Flood in relation to that city. The author perceives two traditions, one which is associated with the Tower of Babel, and is Northern Mesopotamian in origin, with a strong influence of the Armenian hinterland, and which we would put in anthropological terms as Armenoid, and the other which is Aramaean-Amorite. Professor Wright suggests even for these what is fundamentally an Armenoid origin. However, since we have clear indication from the monuments that the Amorites were a blond people, a Nordic origin is much more likely, with Aryan cultural background. The probability is that the invading Habiru had a clan aristocracy of Amorite type which was of Aryan origin and Nordic racial type, and a clan commonalty which was much more Armenoid in its origins. We do not think that in view of this to look to the Arabian Desert for the origins of these peoples is at all correct, in view of the fact that it is quite clear that their roots lie to the North. The Canaanites were, however, largely Mediterranean, and they were of Semitic culture. Therefore, their relationship with Babylonia and the Arabian Desert was much closer.

Professor Wright's treatment of the religion of Israel and Canaan is useful and it may well be as further light is thrown on these subjects that the relationship between the religion which spread in the Megalithic cult and that of Palestine may be much closer than originally suspected.

Whether Tarshish existed on Sardinia, as the writer suggests, or was farther west in the Iberian Peninsula, is problematical. Knowing that the European pre-historic civilizations were much more advanced than was formerly realised by many, and also having regard to the wide movements of peoples, especially by sea at that time, there is no improbability at all in Tarshish having been in the Iberian Peninsula.

A NATURAL HISTORY OF MAN IN BRITAIN: CONCEIVED IN THE STUDY OF CHANGING RELATIONS BETWEEN MEN AND ENVIRONMENTS

By J. H. Fleure. Readers Union: Collins, Glasgow and London, 1959. Pp. 349, 38 colour photographs, 38 black and white photographs, 76 line blocks. Price to Readers Union members, 17s.

This is a most comprehensive work of the human and racial geography of the British Isles, admirably printed and illustrated, by a well-known anthropo-geographer whose views must always be received with interest.

Unlike the works of so many geographers which fail to treat of man in his diversity, that is as members of racial groups, Professor Fleure does not make this mistake, and as a consequence is fully alive to the individual differences of the racial element making up the British Isles and the cultural differences which have flowed from those underlying racial distinctions. It is a thought-provoking work and should be on the shelves of all anthropologists and anthropo-geographers.

THE FUTURE OF MAN, THE B.B.C. REITH LECTURES, 1959.

By P. B. Medawar, F.R.S. Methuen & Co., London, 1960. Pp. 128.
Price 10s. 6d.

This little book contains six B.B.C. lectures as they were delivered. The author recognizes that the title given him is misleading. He carefully abstains from any prophetic utterances but deals rather with the principles of heredity and of population which will determine how human populations are likely to change in the future. The reasoning is sometimes intricate and must have been difficult at times for his auditors to follow, but many biological students will find that this account helps them to orient themselves in problems of population. The notes and citations appended at the end show the author's wide knowledge of current biology.

It is now well known that in malarious countries, such as parts of Africa and South India, individuals who are heterozygous for the sickle cell gene are more resistant to malaria. This adaptive condition in the population has probably grown up independently in different areas over a long period. The mutation for S haemoglobin may well appear also in non-malarial regions, but if so it would not be selected and would soon disappear. It is important to recognize that people who are heterozygous for the S gene are only "fitter" in a malarial environment. In a non-malarial region they may well be less fit than those without sickle cells, since S haemoglobin may be expected to be physiologically less efficient than normal haemoglobin.

The author recognizes (p. 86) that "differences of intelligence are strongly inherited" and in the last chapter he contrasts "two systems of biological heredity": (1) endosomatic, internal or genetic; (2) exosomatic, external or in common terms, social heredity. He recognizes as "highly dangerous" the pastime of drawing parallels between these two very different processes. It is indeed questionable whether the accumulation of social customs and knowledge in successive generations should be regarded as a form of "biological heredity."

A light touch on many current problems of biology and population is characteristic of this booklet.

R. R. G.

HEREDITY AND HUMAN NATURE

By David C. Rife. Vantage Press, 120 West 31st Street, New York, 1; Washington and Hollywood. 1959. Pp. 265.

Everyone who is interested in finding a sane and sound point of view regarding racial differences should read this book, one of the few I have seen which is free from bias. The author says in the preface: "The tacit implication that recognition of innate inequalities is inconsistent with democratic principles all too frequently lends popular support to the environmentalists' point of view." He further comments: "Perhaps the present-day popularity of this philosophy (of universal equality) may be attributed in large measure to reactions to the late Nazi ideology," and he points out that "Marxist philosophy espouses the egalitarian point of view."

In later chapters the laws of inheritance and of population are simply explained. The book is unusual in that many of the examples of human heredity, both qualitative and quantitative, are taken from the author's

own work on such aspects as dermatoglyphics, pigmentation, stature and twins. The discussion of hybrid vigour, which the author does not find in man, is based on his work in plant genetics. His studies of peoples and their hybrids in Sudan, Uganda, Zanzibar and South Africa lead to the statement (p. 194): "Many people have the notion that . . . a uniform color blend will come about in the population (of U.S.A.) as a whole, resulting in a slightly darker complexion." This, he points out, is far from the truth, because the various combinations of racial differences continue to segregate in later generations. He shows that the melting pot conception applies to metals but not to human populations. Many ethnic groups or semi-isolates in the American population, such as Mexicans, Greeks, Swedes, Negroes and Jews, are considered in relation to their religion and culture. Such features as musical ability, athletic ability and intelligence are disarmingly discussed in their relation to culture and race, with the general conclusion that heredity and environment both play a part in their development.

Many of the legends to the figures are very long and, to avoid confusion, should have been printed in a type different from the text.

R. R. G.

PEOPLE, SPACE, FOOD

By Arthur McCormack. Sheed & Ward, London, 1960. Pp. 290.
Price 9s.

This book is written from the point of view that the problem of people, space, and food is not solved by artificial birth control on a vast scale, which the writer holds to be a violation of the nature of man. He therefore sets out to put an alternative approach, based, however, on largely scientific grounds, rather than religious. The author argues that there is a very good case for a constructive policy of world co-operation in solving the problem of raising much of the world's population from subsistence or starvation level. The book is, in fact, an attack upon Malthusianism, and relies to some extent on the fact that the consequences of that doctrine have not yet been seen in the past. The writer quite rightly points out that sources of food have been increased, and that there can be food from new sources, all of which staves off the inevitable results of starvation as would be expected to occur under Malthus's doctrine. No one will dispute the fact that despite the huge increase of population in the world the quantity of food which can be raised by new techniques, development of at present unproductive lands, and by the development of resistant strains of plants which provide food, much more food can be raised than is being done at the present moment. But the fact remains that the size of the world is limited, and while population continues to rise it seems difficult to escape the conclusion that ultimately, no matter how long we stave it off, the doctrines of Malthus must become operative. It has, sometimes, been suggested that in raising standards of living there will be a fall in the increase of population. In so far as this happens in the more advanced countries, it is due to the practice of birth control in those countries, as a consequence of family planning and a desire not to lower standards of living by having too many children. But even this decrease is not always found. In the U.S.A. at the present time there has not been the fall that would have been expected on the basis of this theory.

DARWIN'S BIOLOGICAL WORK: SOME ASPECTS RECONSIDERED

By P. R. Bell, Editor. Cambridge Press, Bentley House, 200 Euston Road, London, N.W.1. 1959. Pp. 343. Price 40s.

The centenary of *The Origin of Species* has produced many volumes dealing with different aspects of Darwin's life and work. That he was a biologist in the broadest sense is clear from the six chapters in this book. The first chapter, by the Editor, on The movement of plants in response to light, starts with Darwin's *The Power of Movement in Plants* (1880) and his work with climbing plants. He showed that root and stem tips exhibit circumnutation, which is exaggerated in climbers. From this starting point the modern story of phototropism and geotropism is unfolded. The more recent highly technical studies of auxin are only made possible by contemporary developments in physics and chemistry. The work of Thimann in this field is not mentioned.

In Dr J. Challinor's chapter on Palaeontology and Evolution the great development in our knowledge of animal fossils since Darwin's time is outlined and many of the problems and gaps which still remain are discussed. After sketching Darwin's opinions, Professor J. B. S. Haldane proceeds with the development of genetics, particularly in its mathematical aspects and the experimental effects of selection. He concludes that it will ultimately be found that "the theory of natural selection is not fully adequate to account for evolution..."

Dr P. Marler writes on developments in the study of animal communication, beginning with Darwin's *The Expression of the Emotions in Man and Animals*. Much recent work is cited with dogs, newts, silk-worms, fireflies, spiders, bees and chimpanzees, considerable space being devoted to sonograms of the songs of birds.

Chapter V by Dr H. L. K. Whitehouse, on Cross- and Self-fertilization in plants, begins with Darwin's book on this subject, published in 1876, which was a landmark in the biology of flowering plants. In a book on the *Forms of Flowers*, published the following year, heterostyly was studied in such genera as Primula and Lythrum, and cleistogamy especially in violets. These two books laid the foundations for the modern work in these fields, which is well reviewed, but the extensive work of Ernst on Primula is not mentioned.

...

The last chapter, Dr J. S. Wilkie, entitled *Buffon, Lamarck and Darwin*, is an excellent analysis of these two forerunners of Darwin. It shows a wide knowledge of 18th and 19th century thought and should be read by all those having an interest in the science of this period. There is only space here for a few remarks. Maupertuis comes into the story. Buffon was a product of the 18th century who had more prejudice against systematists than love for evolutionary conceptions. Lamarck was influenced by 18th century ideas of deism and the Chain of Being. His ideas of evolution were founded partly on the latter, with deviations produced by inheritance of acquired characters. Darwin a century later, when geology and other sciences had greatly advanced, thought of his causal theory of natural selection as an indispensable element in his general theory of evolution.

A full list of references adds to the value of this book.

R. R. G.

THE JEWS IN OUR TIME

By Norman Bentwich. Penguin, Harmondsworth, Middlesex, 1960.
Pp. 176. Price 3s. 6d.

This book starts with the historical background of Jewry.

The writer suggests that after the fall of Carthage, many Phoenician Carthaginians must have been absorbed into Jewry, which in that age was resolute in its proselytisation. He suggests that the commercial bent of the Jew was probably due to this cause. Although we would have thought that this came more from selection, in a rigorous environment, of suitable elements out of a people who had large elements of Armenoid, and so developed to a marked degree the commercial tendencies which that particular stock appears to have possessed from the Sumerians onwards. These latter, who were markedly Armenoid, actually had a word for "business-man."

In speaking of early Christianity the writer quite correctly points out that the Christians parted company from the Jews by refusing to take part in nationalistic movements against Rome—and so concentrated upon "the salvation of the individual, and not national redemption." This is rather a contrast to some elements of Twentieth Century Christianity which have quite suddenly entered the struggle on the side of the nationalistic, or racialistic, movements in more than one part of the world, which are engaged in overthrowing the modern equivalents of the Roman Empire.

As a result of the dispersion the Jews converted the Southern Arabian Himyar, and in Ethiopia the Falasha, and, later, between 800 and 1200, the Tatar Khazars of the Black Sea-Caspian region. The Jews are, therefore, far from a homogeneous people, and the proportion of actual ancient Israel descent must be quite limited. On the other hand there is an unmistakable Jewish type, and this is Armenoid in a large degree—characters which must have been strongly reinforced, if not introduced, by the Khazars. The Sephardic, Spanish, Jews, in contrast to the majority, the Ashkenazim or Eastern European Jew, have far less of this Armenoid strain, and are much more Mediterranean often with Nordic traces.

The writer states that Pope Anaclet II was the son of a Jew, and that Columbus had a Jewish ancestry, as had the Jesuit Torquemada (who established the inquisition in Spain in 1480) and Spinoza; that Michel Montaigne (1533-92) had a Sepharic Jewish mother; while Marshal Balbo of Fascist Italy was a Jew in origin, as is also Sir Roy Welensky, Prime Minister of the Federation of Rhodesia.

The return of Jews to England, after their expulsion in 1291, occurred from Spain, Portugal and Holland under the guise of Christians. Oliver Cromwell was sympathetic to Jewish re-settlement in England, and allowed them to do so without legal sanction in 1656.

After the fall of the Khazar Kingdom in the 13th century the Jews from there settled in the Crimea, whence the type spread westwards.

The writer draws attention to the fact that from the time of the Persian Empire of Cyrus the Jews had been settled in Bokhara where they "acquired the physical character of the Turkomans." This could only have been inter-marriage, and an element of this must have been Armenoid, which seems to be, time and again, the element which creeps into the eastern Jews until it has become very largely the Jewish "type."

As a result of Jewish emigration from Germany and Eastern Europe,

not only has the population of Israel risen, but also the Jewish community in countries like Britain, where it has increased from about 250,000 to 450,000.

The Sassoons are Indian Jews of Baghdad origin, as is David Marshall, the first Chief Minister of Singapore.

The author spoils a good exposition of Jewish history by making an attack on race and arguing that the Jews differ physically (as we know they do from various parts of the world) "like other peoples, according to their environment." This is rank Lamarckism, which has never been established anywhere, and wherever capable of scientific evaluation, is disproved as effectively as has been its latest Prophet—Lysenko. The Jews have all through their history, since the Maccabees absorbed the Edomites, been absorbing the racial elements among whom they have lived.

The Black Jews of Cochin were "black" not because the hot sun turned them that colour but because they had absorbed dark Indian strains, and natural selection had done the rest to spread the nigrescence right through the whole of that group. The eastern European Jews were broad-skulled because they had derived it from proselytisation and racial-mixture with the overwhelmingly brachycephalic Alpine, Armenoid, East Baltic and Dinaric elements throughout that vast region.

OVSERVACIONES SOBRE GEOGRAFIA, RAZA, CULTURA E HISTORIA

By M. M. Valle. Third edition, published at Lima, Peru, 1953.
Pp. 371.

The sub-title of this work—Geographic Ecology of Man—indicates its scope and general character. It emphasizes the relations of man to climate, with a broader approach than some recent writing. It is therefore briefly but belatedly reviewed here. The introductory chapters deal with the fundamental influence of climate on the distribution of plant and animal species, showing isothermal lines and zones of life in the eastern and western hemispheres.

For instance, the arctic fox, the temperate red fox and the desert fox are compared; and the antelope of Tibet is contrasted with the desert gazelle of Somaliland. The four parts of the book deal respectively with the influence of climate on the physical races of man, on history, on cultural characteristics and on the destiny of peoples. In the first section many examples are given of the application to human races of laws of the zoologists Bergmann, Allen and Glöger regarding the effects of climate on animal form. It is further pointed out that most of the human migrations within the historic period are isothermic, that is, between regions of similar temperature and climate, whereas migrations from a temperate to a tropical climate are generally much less successful or may end in failure. As examples of the latter are cited migrations of the Hyksos and Abyssinians into Egypt, the Romans into England and Africa, the Normans into Southern Italy, the Mongols into India, and many others.

In this original work the author distinguishes between *mestizos* or mixture of nearly related types occupying and adapted to similar climatic regions, and *hybrids* or mixture of very different races with very different adaptations. Recognition of this difference in the realm of race crossing would avoid many controversies.

R. R. G.

INFANT MORTALITY IN INDIA 1901-55

By S. Chandrasekhar. Published by George Allen & Unwin, 1959.
Pp. 175, 22 tables, 4 charts. Price 20s.

This is an extremely useful book on a subject in which there is not too much information available. The mortality rate in India is, as might well be expected, extremely high. What is of great interest, however, is to notice the variation from place to place, Nagpur having in 1951 a mortality rate of 239 per thousand as against Delhi at 92. Put another way this means that Central India, Madhya Pradesh (Central Provinces), has a mortality rate of 194 compared with such as 123 for the Punjab or 89 for Bihar. In a sense this is rather difficult to understand on a basis of climate, since much of Madhya Pradesh is relatively high, and has a relatively good climate compared with the extremes either of Bombay with its 116 mortality, or West Bengal with its 110 mortality rate. In addition to purely geographical factors which may be involved, it is also possible that there are those involved with heredity.

It is interesting to note that in 1946-47, for instance, Scheduled Caste Hindus had a mortality rate of 308, as against caste Hindus 185, Muslems 189, Indian Christians 179, Parsees 72 and Europeans 37. In the factors which are here involved, of course, there are also matters of level of education, and social and economic status of the various communities. It is to be expected that the Scheduled Castes, in other words the people who are really outside of the accepted castes of society, and form the lowest social rung, have the highest mortality rate, while Indian Christians who are the most advanced as a community, should have a lower rate of 179, and the Parsees, who are an extremely advanced community, and are more to be equated with Europeans than Indians, have only 72. It should be pointed out, however, that while in Bombay the European rate was 37 in 1946-47, in 1938-39 it was as high as 174. This difference no doubt was due to the fact that there had been a considerable advance in preventative medicine of every kind as well as in the application of drugs, as a consequence of which it has made it possible for European children to survive more easily in India today than it was a generation or so ago.

This book can be a useful source book of information and material for the study of the complex problems involved in the interaction of racial, environmental, and sociological factors.

THE ANGLO-SAXONS

By D. M. Wilson. Thames & Hudson, London, 1960. Pp. 231, 79 plates, 38 figures. Price 30s.

This is an extremely well-produced, well-illustrated account of the archaeological remains including many of the beautiful treasures, from coins to cups, sword-hilts and jewellery, as well as illuminated manuscripts, of the Anglo-Saxon people. It is written by an Assistant Keeper in the Department of British and Mediaeval Antiquities at the British Museum who has been specially concerned with Anglo-Saxon Archaeology, and as a consequence has authority in this field. The title is slightly misleading, as it would suggest that it was dealing with Anglo-Saxon ethnology rather than, as it is, with Anglo-Saxon culture and cultural development. For all that it is an extremely worthwhile book and adds further to our knowledge and appreciation of the Anglo-Saxon civilization.

THE GODS AS WE SHAPE THEM

By F. Sierksma. Routledge & Kegan Paul, London, 1960. Pp. 192, 92 plates, 13 figures. Price 52s 6d.

This is a magnificently produced book both as regards illustrations and standard of printing, by a master of his subject, who is Lecturer in the Psychology of Religion and the History of Primitive Religions at the State University of Leiden. It is a work essential to anthropologists, ethnologists, psychologists, and historians of religion, as well as theologians.

Like practically all work written by social anthropologists it is not sufficiently comparative, as it makes the basic assumption of a common humanity and consequently finds no difficulty in explaining Eskimo religion in terms of practices and beliefs of the Australoid, and those of Babylonia, as well as of Christianity. While there is no doubt that there is a certain degree of common basic humanity, and so basically the same common urges and reactions, there are also fundamental differences. The basic stocks whether they be considered races, sub-species or species, were so long separated in time, and by distance, that there must have been a development of religious thought along distinctive lines in each of the basic stocks. While on top of that there has been a diffusion from one group to the other, as religious ideas had been carried by "missionaries" from the earliest times, yet running through all there must have been the racial evolution in each stock of religious thought, and concept, which belong to both a biological and social inheritance of that strain. Yet both anthropologists and sociologists, with very few exceptions ignore this fact. This is therefore a fundamental weakness in all their studies. When the comparative aspect of such work is at last undertaken properly one feels that there will arise an interpretation of religion which is consistent with the general development of each stock. One also has some doubts as to the value of including plates 91 and 92 of Picasso, and interpreting them as religious iconography. Nevertheless, despite these criticisms, this is an extremely useful exposition.

N.

THE DESPERATE PEOPLE

By Farley Mowat. Michael Joseph, London, 1960. Price 21s.

This book, even if only half true, makes very distressing reading. It shows how the Canadian, by unlimited exploitation of the resources of the Arctic, first by destroying the caribou, and then later the forest where the caribou wintered, completely removed from the inland Eskimo of the Keewatin district the means not merely of livelihood, but of survival—as a result of which they have died like flies! All this has happened in the course of the last twenty years and the book comes right up to the present time. If the writer is to be believed the Canadian government has shown itself entirely unthinking and irresponsible in its attitude towards its responsibilities for the Eskimo. Assuming that the facts stated are true, there seems much to justify the author in his statement on page 111:

"Nor would this have been such a gross canard against a modern and virtuously democratic nation as it might have seemed. While the fate of the Eskimos remained, to all intents and purposes, in the hands of the three empires [Hudson Bay Company, Missionaries, and Royal

Canadian Mounted Police] Canada's voice was often heard championing the cause of the world's under-privileged peoples. We Canadians looked askance at the South African exponents of *apartheid*, at the segregationists in the southern United States; and we gazed with holy horror upon the inhumanities which we were told were being perpetrated on primitive peoples under the rule of Communism. Indeed we looked virtuously in all directions; except northward into our own land."

At page 141 the writer goes on to say:

"It does not seem to have occurred to the men whom we had elected, hired, or appointed to deal with Eskimo affairs, that the Innuit deserved any better fate at our hands than would semi-domesticated animals which had outlived their usefulness. There never had been any real policy directed at assisting the Eskimos to help themselves, and 1951 evidently did not seem to be a suitable time to formulate such a policy. Instead, the responsible authorities turned blind eyes upon the north and sought for an expedient way to avoid the entire problem."

It has always seemed to us that the outraged sentiments expressed in North American and Canadian journals concerning both the Negro problem in the Southern States and the racial problems in South Africa and Rhodesia have been somewhat hypocritical to say the least, in view of the fact that both the Indians and the Eskimo have very serious indictments to lay against the North American peoples. It may well be that this account is somewhat exaggerated, but it must represent a considerable amount of valid criticism of the indifference, in this case, of the Canadian Government and officials towards the Eskimo in this particular district in the years covered by the book. We would also remark that whereas the Eskimo has been virtually exterminated, and their standard of living reduced to that of absolute beggary in the Keewatin district, according to the author, the position of the Bantu in South Africa is the absolute contrary—their numbers have increased enormously, and with it their standard of living, as a result of contact with the white South African. One can quite well imagine harrassed administrators in the southern part of the U.S.A. or in South Africa or Rhodesia telling these northern peoples to cast the beams out of their own eyes before they start pulling the motes out of those of others!

In his closing chapters the author gives conclusive evidence of the high mental qualities of the Eskimo, and we are glad to say steps have been taken to rehabilitate the scattered remnants of a devastated people by providing them with work in a nickle mine where they have been able, within only a few months of leaving their primitive hunting life, to take over the use of complicated and advanced machinery. In fact, it is quite clear, as was evident to any anthropologist in the past, that a people able to adapt themselves to the rigours of the Arctic in the way the Eskimo has, must have had considerable ability and intelligence.

This book is well worth being read widely at the present time.

LOVE IN ACTION. THE SOCIOLOGY OF SEX.

By Fernando Henriques. Macgibbon & Kee, London, 1960.
Pp. 432, 64 plates, 26 text illustrations. Price 45s.

This work is more objective than many published on this subject, as the writer has a background of anthropology from which to draw. Like

many social anthropologists he does not probe deep enough to see how customs are conditioned not merely by social inheritance, but by heredity—and, furthermore, where the former is alone or mainly operative, whether differences between one great racial stock or another occur. Nevertheless, from his very comprehensive treatment the intelligent reader will not fail to note that both male and female circumcision is practically absent from the Caucasoid stock, except in its Semitic branches which are just those which abut upon the Negroids to the south among whom it is a widespread practice. The fact that the Bible account makes it clear that the Patriarchs (who were Amorites—a people depicted on the Egyptian monuments as Nordic) adopted the custom after settling from the north in Palestine, where they had contact with Egypt, suggests that it was a practice of southern origin. Since other Hamites did not practice it, it is fairly certain that the Ancient-Egyptians probably derived it from Upper Egypt and in turn from the Sudan and the Negroid world. (Often Cult and other practices are taken from lower civilizations by the higher).

While romantic love may well not have developed fully in Europe till it ultimately flourished under the Provençal Troubadors, it is so unmistakably not only more widespread among the Caucasoid stock today (as is evident in all its ancient literature—Vedic, Iranian, Arab, the Song of Solomon and so on) that it leaves little doubt that it is a distinctly White racial attribute. The fact that it is found today among the Touregs of north-west Africa does not invalidate this, as they are believed to have had Berber—and so Hamitic—ancestry. No doubt all stocks are capable of romantic love, but there is no gainsaying the fact that it is typical of the Whites and hardly of the Blacks—with the Yellows rather in between. Whether it is in part biological, or due to a distinctive tradition (with resultant conditioning in the same direction), it is hard to say at this stage. But it does certainly indicate how widely divergent in this basic cultural trait are, for instance, the Caucasoids and the Melanoids.

The writer very rightly stresses the fact that there is no evidence worthy of consideration for the practice of the *prima noctis* in early Europe, although this has often been alleged.

This comes from the all too ready habit among social anthropologists to try to trace current practices of very primitive stocks among peoples of an entirely different strain. The evidence is that White, Black and Yellow diverged so early that there must be a wide divergence of social practices also, except for what has been adopted through diffusionism on the one hand, or through parallel living conditions creating parallel practices. But even in these cases the divergence of the basic stocks away from each other would suggest that there must be considerable modifications to suit the trends of each stock's line of development.

Like many social anthropologists the writer tends to judge unfavourably the *mores* of the Caucasoids against those of Equatorial peoples. This is, however, fallacious reasoning. The White races have advanced immeasurably further and their customs and standards of morality have been developed in relation to their needs—conditions of life to which the evolution of the Black races has not yet brought them.

However, the book is an interesting presentation of the many subjects involved and is worthy of study.

THE ORIGIN OF MAN

By Mikhail Nesturkh. USSR Academy of Sciences, Moscow, 1959.
Translation from Russian by George H. Hanna. Pp. 349. N.P.

This book, which is carefully translated from the Russian edition, is a full-length anthropological study of human evolution by Professor Nesturkh, of the Institute and Museum of Anthropology, Moscow State University. It is divided into three parts. Part one, which is entitled "The Darwin and other hypotheses concerning anthropogenesis," is a thoroughgoing confirmation of Darwin's views, with certain reservations such as Darwin's "uncritical application of social laws in biology." Throughout the book there are frequent quotations from Engels, Marx, Lenin and (once) Stalin, even on matters of human phylogeny. The intention apparently is to introduce Communism to the reader as a religion added to the scientific study of man. This part has an archaic flavour in places, as when the Darwin-Huxley battle regarding the origin of species is fought over again. In this section (p. 28) Keith's term *cruriation* is used, meaning the habit of some anthropoids to walk upright along the horizontal branches of trees, using higher limbs to balance themselves, this being a preparation for progress upright on the ground by later descendants.

A long and well-illustrated section follows regarding the living anthropoids and their fossil relatives. A later section deals with "religious explanations of anthropogenesis," in which considerable space is devoted to a refutation of Osborn's orthogenetic hypothesis of aristogenesis.

Part two is entitled "Physical peculiarities of the human body and the emergence of man." Here emphasis is placed on "the herd instinct" and "rudimentary forms of labour" in monkeys. In part three, on "palaeanthropological data on the making of man," the direction of human phylogeny is considered in detail. This begins with a full account of *Pithecanthropus* and *Sinanthropus*, which are regarded as the earliest men. Based on Russian geological data, the Ice Age is divided not into four periods with long interglacial intervals, but into two periods more or less continuous.

Although the Penck terms for glacial periods are also used, confusion is introduced by the statement (p. 243) that "the first 500,000 (years) of the Quaternary Age are taken up by the preglacial epoch."

Among the outstanding conclusions of this work are: (1) that Neandertal man gradually developed into modern man; (2) that the genus *Homo* is divided into three subgenera, *Pithecanthropus*, *Palaeanthropus* and *Neanthropus* (modern man), the three great races of modern man being subdivided into a number of "smaller races"; (3) that although the Australopithecines are considered, the origin of man took place "in the southern part of Asia."

Although marred by the constant introduction of Communist ideas, such as the necessity of the "class struggle," this book aims to set forth an objective account of human evolution.

R. R. G.

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EDITORIAL

There is little more we require to justify the emergence of THE MANKIND QUARTERLY than some of the statements appearing daily in the public press and being constantly made by commentators on wireless, television and screen, which are founded upon erroneous racial sanctions. At a time when the facts of heredity, genetics, racial classification, and the association of these with culture from prehistoric times to our own, together with the relationship of the whole to inherent emotional and mental development, should be generally recognised, we have instead a situation in which ignorance is widespread.

This lack of knowledge of the facts of anthropology and its sister sciences is not, however, confined to journalists, politicians and such-like people whom it is possible to excuse because their education is often of the shallowest, but it also comprehends many whose pretensions to knowledge and ability to think are of a much higher category.

An example of this has just occurred in the statement which appeared in *The Scotsman* on Friday, January 13th, under the heading PREJUDICE OVER MIXED MARRIAGE: SIR JOHN WOLFENDEN ON "PROMISING SIGNS." The account then continued as follows:

Britons, who are one of the most "mongrel" people of the human race, are prejudiced when it comes to marriages of mixed colour, says Sir John Wolfenden in an article on race relations in the 1961 edition of the Church of England's Official Year-book published today.

Sir John, who is chairman of the Church Assembly Board for Social Responsibility, speaks of the importance of standards of education, cultural background, age, temperament, community of interest, whatever the colour of the skins of the two people concerned.

It was rather as an index of some of these than as a fundamental feature in itself that "race" had to be assessed.

"In this sort of situation most British people are not so much ill-disposed as just plain insular," he goes on. "Being ourselves one of the most mongrel of all the strains of the human race, we somehow are not very adventurous about marriages of mixed colour. We are, in a word, prejudiced."

We are concerned that there could be such a statement from a man who is not only a well-known publicist, broadcaster,

and the author of the Wolfenden Report dealing with homosexuality, but also the Vice-Chancellor of Reading University. A glib verboseness is to be expected from the former vocations, but not from one engaged in and holding the positions of the latter. Furthermore, it is not solely a question of ignorance of the ethnological facts, but also, so it would seem, an astonishing failure to reason correctly from them.

Without going too deeply into British prehistoric and historical ethnology, it can be said that the build-up of the British peoples is roughly as follows:

Along the western coastlines there is a settlement of people of Atlantic Race—tall, heavy boned, with heavy supra-orbital ridges, dark haired, light eyed, fair skinned and long-skulled. In the south-west we have a penetration of Mediterranean, which spreads thence eastwards and northwards—this race differs from the Atlantic in being of short stature, light build, less bony structure of the skull, with dark eyes and a tendency to darker complexion. These two racial strains are mainly pre-Celtic, which were later Celticised, and are now most strongly represented in the Celtic parts of the British Isles—Ireland, Wales, Cornwall, Western Scotland and so on. In Wales there was also a penetration of some Alpine; in Yorkshire and Aberdeenshire of some quasi-Dinaric, mixed with Atlantic. This accounts for the tendency to broader skulls in these regions.

Then, from the end of the Bronze age onwards, there flowed in wave after wave of settlers and invaders. These were overwhelmingly of one racial stock, and that was Nordic—whether the new-comers were Celts (Brythonic or Gaelic), Angles, Saxons, Jutes, Danes or Norsemen—while even the Normans, who were the least homogeneous of the whole, must have been largely of the same stock. The result of this has been that the Celtic lands of the British Isles are mainly Nordo-Atlantic (with, in Southern Ireland, a distinct admixture of Mediterranean, and in Wales that with some Alpine), and Scotland and England are largely Nordic, with an admixture, especially in Scotland, of Atlantic, and with the other strains definitely of much lesser importance. That the peoples of the British Isles are not a *mongrelised* hotch-potch is shown in the relatively slight range in the cephalic index, in stature statistics (except where due to stunting in the industrial regions in the past) and the general uniformity of, for instance, the English, or the Scots, who can often be identified as of a distinctive type. These peoples are clearly breeds, racial-breeds, not entirely unlike breeds in dogs, and are not mongrels in the sense in which Sir John Wolfenden in using that word. Therefore to make a comparison between such old stocks as these—which are in a state

of very considerable equilibrium, through being derived from a restricted group of nearly related races, and are highly inbred—and those strains of unstable nature produced by miscegenation in regions where races of vastly different character are meeting, shows a degree of irresponsibility which is almost unbelievable.

The most charitable conclusion to draw is that the writer has confused national and tribal names—Angles, Jutes, Danes, Saxons, Norsemen, Picts, Scots, Brythons, etc.—with racial terms, and so tribes with races. This has led to the fallacious assumption that if a nation is composed of so many tribes (that is—for him—“races”), then it is a very great racial mongrel.

If a Vice-Chancellor is capable of such a misunderstanding of facts it rather indicates a general need for more teaching of anthropology and its related sciences, and in this case in particular, a course in historical ethnology, combined with some acquaintance with physical anthropology, to dispel the illusion that tribal names can be taken as having any racial significance.

However, even if the British peoples were composed of equal mixtures of all the European races—Nordic, Mediterranean, Atlantic, Alpine, East Baltic, Dinaric, Armenoid, etc.—and even supposing that these mixtures were recent, and the whole hybridisation was in a state of the most complete inequilibrium, with pockets of pure types and of hybrids side by side, it would not add to Sir John Wolfenden’s argument one iota. For the fundamental fact he has overlooked, which is salient to the whole argument, is that the British peoples are not a compound of crosses between species, sub-species, or widely distinct stocks—however you may wish to assess these differences zoologically—but of crosses *within ONE specific strain*. *What can occur without ill effects within one stock, does not provide any grounds for reasoning as to what can occur when two distinct stocks are crossed.* One wonders why, instead of using as an example the alleged and wholly untrue mongrelity of the British peoples, he had not chosen, shall we say, the people of Haiti, who are a cross between Black and White! For the purpose of scientific control and reasoning it is essential to take as the control an example of inter-specific crossing to use as a basis on which to argue that Negroid-Caucasoid crosses are desirable.

Furthermore, we do not think, in view of the natural phenomenon of assortative mating, that the British or any other peoples, Black or White, are behaving unnaturally if they show some hesitancy to enter freely into hybridisation with strains vastly different from themselves.

Therefore we not only say that the allegations concerning the alleged mongrelity of the British peoples in this statement do not

constitute an objective and scientifically true assessment of the facts, but that the reasoning which derives from those alleged facts—even if their truth were unimpeachable, and the British peoples were White mongrels—is wholly at fault and cannot be sustained.

Let it be stressed that we are not concerned here with the question of whether racial crossing is desirable or not; whether to encourage it is justified by ethics or theology or not; or even whether a true or lip-service support of it is considered politically expedient—or whether on those very grounds it is to be deplored. What we are driven to say by this much publicised statement in so responsible a publication is that if anyone wishes to advocate or justify Black and White crosses, and desires to castigate European peoples for their backwardness in showing a desire for racial miscegenation, they should do it on other grounds than those which are in fact bogus ethnological and anthropological premises.

To be blunt, we see no difference, in ultimate, between such misuse of anthropological data for the end of racial miscegenation, and Hitler's misuse of it in the other direction to impose a doctrine of a *Herrenvolk*.

As anthropologists we have every reason to object strongly to this abuse of our group of studies for such political and ideological ends, and it is time to make a strong protest against it.

When we consider that such a statement as we have quoted—written by the head of an English provincial university—can be published in the Official Year-book of a Church of considerable size and influence, it would appear to justify completely the inception and publication of THE MANKIND QUARTERLY which is devoted to presenting the facts from all branches of those studies which bear upon man, his origins and relationships, and his distribution.

It is quite evident that there has been a failure for several decades to present effectively the objective interpretations of these sciences, otherwise such statements could not occur, and this has permitted the unrebuted abuse of anthropological data to take place.

R. GAYRE OF GAYRE.

Population Distribution in India

BY MOHD. NASEER KHAN

Following upon Sir Charles Darwin's important article contained in the last two issues, it is of interest to consider one of the countries of the world whose extremely high and increasing density of population is of great concern to its government. We have therefore asked Dr Naseer Khan to contribute this short study of the Indian population distribution, on which subject he has done some considerable work.

It will be observed from the account which he gives that despite the huge size of the country the population is restricted to well defined areas, and the possibilities of providing for expanding population elsewhere are limited. In addition, it will be seen that in the thickly populated areas the figures are as high as 1,000 to 2,000 per square mile.

Attention should be drawn also to Dr Naseer Khan's remark that population is controlled by the food supply, so that any improvements which lead to increased production are almost immediately translated into an expanding population, thus bearing out the previous observations made by Sir Charles Darwin.—EDITOR.

India's spatial distribution of population is influenced by geographical factors, while the distributional pattern is determined by agriculture. In this paper an attempt has been made to co-relate and interpret the population distribution and density with geographical factors and the occupation of agriculture. Areas of high population densities, of less dense population, thin population, sparse population or no population have been brought out and interpreted.

Where people live is a pertinent topic to be considered in any study of population, because where people live is influenced as much by problems of making a living as by geographical conditions. A general spatial distribution of population is influenced by climate, relief, rainfall, soil and natural vegetation, while density patterns of population are determined by human economic activities by which men earn their livings.

In India the question of population is that of the means of livelihood or of food. The more food there is the greater is the population. Therefore it is found that all those factors which affect the distribution of food in India also affect the distribution of population and its density. The distribution of rainfall,

fertility of soil and irrigation facilities determine the quantity of food that can be grown. Rice as a crop supports more people than wheat or millets. Therefore the distribution of population in India follows in a large measure the rice cultivated areas and consequently rainfall, for rice is cultivated generally in the moist regions.

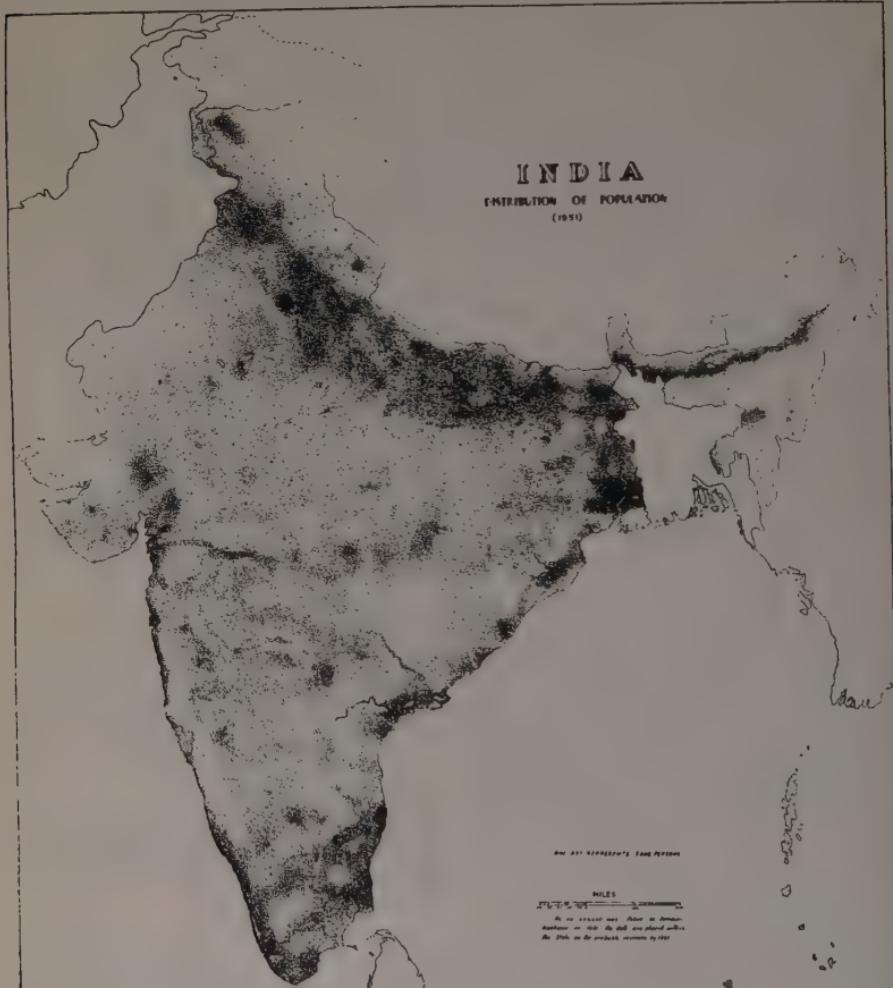
Concentration of population of the magnitude of the first order in India is in the north, forming a crescent shape running along the Ganges Plain at the foot of the Himalayas, tapering at both ends towards the north. The approximate length of the crescent is 1250 miles and the breadth, broadest in the middle, is about 125 miles. From the north-west it covers Kashmir, Punjab, Delhi, Uttar Pradesh, Bihar States and the north of West Bengal State. Within the crescent the concentration of population is very high, having an average density of at least 400 persons per square mile, often 600, and in places as much as 1000 per square mile, culminating in coalesced dense population around the urban centre of Delhi. The continuity of the density of population within the crescent is broken at two places, one a triangular shaped area between north Punjab and Delhi. In this area besides the deficiency of rainfall there is not much irrigation for crop growing and hence the population is less. Another conspicuous gap of less population density is between the Vale of Kashmir and north Punjab, where the topography is hilly and there is not sufficient rainfall for cultivation, and hence the small population.

The area covered by the crescent has a favourable climate and soil for intensive cultivation. Though on the western side of the crescent the rainfall is not sufficient for cultivation, it is compensated for by canal irrigation. Rice cultivation dominates in the eastern part of the crescent where the rainfall is between 40 to 80 inches annually which is desirable for rice cultivation.

Other areas of concentration of dense population of smaller magnitude are: West Bengal, the Brahmaputra Valley, the eastern coastal plain, Mysore State, Kerala State and the narrow coastal plain on the west.

Concentration of population in West Bengal is conspicuous by being very dense in the south. In the north rice cultivation dominates and in the south a large number of industries thrive. It is in this south agricultural-cum-industrial area that the density of population reaches the highest in India rising to 2000 persons per square mile. The Brahmaputra Valley is a narrow strip on both banks of the river having a breadth of 24 miles and extending eastward about 485 miles; it is well cultivated and densely populated. At a few places in the strip are broad patches of concentrated population, due to tea plantations in those areas.

where large numbers of people are employed as labourers. The eastern coastal plain extends from West Bengal southward to the Krishna delta, where the population is dense. Within this coastal plain two areas are conspicuous, the Mahanadi delta and the Godawari delta, where the population is denser. Rice cultivation



DISTRIBUTION OF POPULATION IN 1951

One dot represents 5000 persons

is responsible for these concentrations, while the rest of the coastal belt is narrow and mostly inhabited by fishermen. Southern Mysore State, south of the urban centre of Madras, is densely

populated over the whole region except for three areas where the population is less dense. The most important of these areas is that bounded by the very densely populated areas of Kerala and Madras State. The south-west Coastal Plain of Kerala State, a rather broad fertile plain, has a very high density of population, rising to 1000 persons per square mile. It is next to the southern part of West Bengal in density. The occupations of agriculture and fishing have given rise to such concentrations of population. The narrow coastal plain which runs along the west coast, and which is hardly 10 to 20 miles broad, spreading out towards the north enclosing the industrial centres of Baroda and Ahmedabad, has a dense population. On this coast the occupations are rice cultivation, growing of coconut trees and fishing. Within this narrow belt around Bombay the concentration of population is very high because of the industries thriving there.

Besides the above mentioned dense concentrations of population in India, the rest is either thinly populated, sparsely populated or without population. Thinly populated areas are: the Tarai and the southern slopes of the Himalayas, the whole of the Deccan Plateau, eastern Rajasthan, the Chota Nagpur Plateau and Gujarat.

The Terai and the southern slopes of the Himalayas afford patchy agriculture and sheep rearing, and hence the population is thin. The Deccan plateau covers the middle of India, extending from north of Madras State and up to south of Uttar Pradesh and east-west between the Eastern and Western Ghats. The main population concentrations in the Deccan Plateau are peripheral to the peninsular uplands, which appear as a huge quadrilateral of less densely settled territory interposed between the crowded regions. The general density of the upland is less than 200 persons per square mile, and in the most rugged part less than 100, though in the interior valleys of central India and in the western and southern parts of the Deccan Plateau the density is 200. Having a poor soil, a configuration which is rugged, and insufficient rainfall, only scattered agriculture and cattle rearing is possible in this upland, which has thus given rise to the less dense population. Eastern Rajasthan has a thin population because of its meagre rainfall which does not encourage agriculture except in a few places where irrigation is possible. The Chota Nagpur Plateau is all rugged and the soil is not fertile, hence little agriculture is carried on, and the dominant occupation is cattle rearing which has given rise to a thin population concentration in this area. In Gujarat the population is also rather thin. There is sufficient rainfall but as the soil is not favourable not much agriculture is possible.

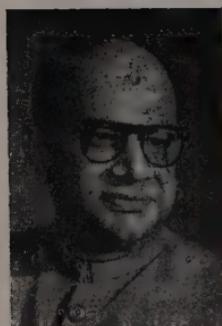
Regions of sparse population are the high mountains of the

north, the high mountainous region of Assam and the Thar Desert. The cold high mountains of the north and the high mountainous region of Assam do not encourage occupation, and this leads to a sparse population, which is concentrated only in sheltered valleys. In the Thar Desert there is practically no rainfall and no cultivation is possible except at a very few places where underground water is available. Very few people live here.

Sunderbans, south of the Ganges-Brahmaputra delta, and the Runn of Cutch on the western side of India, have no permanent population settlements. Sunderbans is a region of weeds and swamps, while the Runn of Cutch is flooded during the rainy season, and there are no significant settlements in either. As regards the high mountains of the north of the peninsula, over 12,000 feet above sea level, these are covered with snow most of the year, and as a result do not allow any form of human occupation, and so there is no population in these parts.

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7. Soil map of India published by Government of India.



BIOGRAPHICAL NOTES

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PSYCHOLOGICAL TEST SCORE DIFFERENCES AND THE 'CULTURE HYPOTHESIS'

BY FRANK C. McGURK

Few writers today deny that there are measurable psychological test score differences among racial groups. Most of those presently writing on this subject insist that these differences are not biological differences; they are referred to as cultural differences, and this has given rise to the "culture hypothesis" as the explanation of racial differences. While the "culture hypothesis" has been expressed in various ways (e.g., Ashley-Montagu 1945, and Klineberg 1944) its essence is that what we call observable race differences are really social differences and not biological differences, and that these differences, since they are caused by differences in cultural advantages, will disappear when the differences in cultural advantages disappear.

The "culture hypothesis" has been invoked particularly in discussions of differences between Negro and white groups. While the advocates of the "culture hypothesis" have presented strong moral and ethical arguments against biological differences between Negroes and whites, they have failed to present any factual data in support of their hypothesis.

Ultimately, any hypothesis in science must be tested against the objective phenomena which it attempts to explain. This is the way of science. If the hypothesis is in accord with objective measurement or observation, it gains in stature; if the objective data are out of control with the hypothesis, the hypothesis must be rejected.

If the "culture hypothesis" has any meaning, it could be expected that, as cultural differences between Negroes and whites decreased, the difference between their mean psychological test scores would decrease. The objective measurement of a decrease in mean test score difference would, thus, support the hypothesis. It would not be necessary that the mean racial test score difference should disappear completely. The "culture hypothesis" would gain in stature if it could be shown empirically that even a small reduction in the mean test score difference between Negroes and whites accompanied a reduction in the cultural differences between these two racial groups.

Reduction in the cultural differences between Negroes and whites has occurred in the United States. This paper is interested in showing what measurable psychological test score differences have accompanied the reduction in the racial cultural differences. Does the "culture hypothesis" have any objective validity?

The World War I Period

The most convenient place to begin the study of our problem is the World War I period. It was at this time that the first extensive psychological study was done; tests were administered to very large groups of Negro and white draftees who represented the entire country. The results of this study were carefully recorded and published by Yerkes (1921).

The World War I period was also a period of marked social and economic restriction for the Negro. He was limited in his choice of residence, and the choices he had were undesirable by present-day standards. Generally, the Negro was a rural dweller at this time. Schools available to him were under-equipped, understaffed, and often not accessible. In general, he was limited in his social participation, he was limited economically, and there is no question that the World War I period was, when compared with the present, one of great deprivation for him.

During this war period, the psychological test scores of the Negro recruits bore a clearly inferior relationship to the psychological test scores that equalled or exceeded the mean test score of the white recruits (Garrett, 1945). This is usually referred to as overlapping; it is said that 27% of the Negro recruits overlapped the mean of the white recruits. With this degree of overlapping, the Negro mean score is much below the white mean score. This concept of overlapping has nothing to do with range of scores (the difference between the highest and lowest score). The range is notoriously unstable—so much so that it is almost meaningless. Overlapping, as used here, is concerned only with the relationship between the bulk of Negro scores and the mean white score. Comparisons by the per cent of overlap is the simplest method of comparing scores from various psychological tests. Test performance can be compared by comparing measures of central tendency, but this requires elaborate statistical treatment and the product is no more useful than comparisons by means of overlapping.

The World War I period is, then, a basis for testing the "culture hypothesis." Here was a period in which 27% of Negro recruits equalled or exceeded the mean score of the white recruits when the cultural restrictions for the Negro were marked.

If the inferior test performance of the Negro is truly the result

of his cultural restriction, then it follows that, under the "cultural hypothesis," an improvement in the Negro's cultural status should be accompanied by an improvement in his test performance when compared with whites. Put otherwise, if the difference between Negro and white mean psychological test performance is the result of differences in cultural opportunities between Negroes and whites, a decrease in the difference in cultural opportunities must be accompanied by a decrease in the differences in mean test performance.

The cultural position of the Negro has certainly improved since 1918. This improvement has not been sudden, but has been in progress for at least two generations. The Negro has achieved more and more of the social and economic opportunities that were once reserved for the white man, and to say that the cultural status of the Negro has not improved markedly is to deny objective evidence.

What has happened to the relationship between the psychological test scores of Negroes and whites while this cultural change has been taking place? Has the Negro-white test score difference of the 1918 period reduced in magnitude while the Negro-white cultural differences were being reduced? Do the available data support the "cultural hypothesis"?

Between 1935 and 1950

Between 1935 and 1950 inclusive, about 140 articles were published in the scientific literature of psychology which dealt with the question of Negro-white test score differences. Only 63 of the 140 articles presented statistical data, and in all 63 articles the mean test score of the Negro subjects was lower than the mean test score of the white subjects with whom they were compared. The other 76 articles were simply speculative comments about the problem, and almost totally lacking in data.

Of the 63 articles which presented data, only six submitted sufficient material to permit comparisons with the World War I period. These six articles are important; they covered a wide range of years, a variety of age groups, different grade groups, and different psychological tests. Because they were spaced over a range of years, they covered a variety of cultural opportunities. Also, they were written by six different investigators.

Tanser (1939) is responsible for the earliest of these studies, which was done on a group of Canadian Negroes and whites. Three standard psychological tests were administered to Negro and white school children enrolled in grades 1 through 8. All of the Negro children were described as descendants of slaves who had escaped

from the South prior to, and during, the Civil War. According to the author, social and economic opportunities had always been equal for all Negroes and whites in this area, except for a few minor outbursts of oppression directed towards the Negroes.

Tanser reports that the mean test scores of the Negro children were markedly below the white mean at every age and every grade. Overlapping for the total group (all children of all ages and grades) was between 13% and 20%, depending on which psychological test was used. In no case did overlap exceed 20%. Thus this study, done some 21 years after the World War I period, indicated that the gap between Negroes and whites had not been lessened: it had been increased. In Tanser's study, the Negroes made a much poorer showing, relative to whites, than Negroes did in the World War I study. The cultural advantages of Canadian life did not increase the relative standing of the Negro children to white children, and this study offers no support for the "cultural hypothesis."

The second study appeared when Bruce (1940) published her doctoral dissertation. In Bruce's study, three psychological tests were administered to 9- and 10-year-old Negro and white children from an impoverished rural area in Virginia. All children attended segregated rural schools. By administering a socio-economic scale, and pairing children according to score on this scale, the author developed two groups of subjects, one Negro and one white, both of which groups were equivalent for socio-economic factors contained in the scale. All socio-economic scores were very low.

As did Tanser, Bruce found that Negro overlapping varied with the psychological test under consideration, but it never fell below 15% and never exceeded 20%. Even in these deprived cultural conditions, Bruce's subjects performed almost identically with Tanser's subjects, although the difference in cultural status between Tanser's subjects and Bruce's subjects appears to have been marked. Bruce's findings indicate that equal socio-economic opportunity, even as low as it was, did not change the psychological test score relationship between Negroes and whites which was shown in World War I. Such evidence does not support the "culture hypothesis."

Shuey (1942) reported the third study. One psychological test, constructed especially for college subjects, was administered to a very highly selected group of students in a New York City college. The subjects ranged in age from 18 years to 35 years, and came from various sections of the country. Negro and white subjects were paired so that, in the opinion of the author, each member of a pair was equivalent in social and economic background. Thus the Negro and white subjects were of the same average age, the same educational background, and generally the same cultural status.

In Shuey's study, Negro overlapping of the white mean was

approximately 18%. For such a highly selected group of Negroes, this was surprisingly low overlapping, and is quite consistent with Tanser's and Bruce's findings even though the subjects in the latter two studies were considerably lower in cultural status. Moreover, Shuey's findings are markedly below World War I findings and are no indication whatsoever that equal cultural status equalizes or will equalize the Negro's test performance in relation to the white's.

The fourth study was reported in 1944 (Brown, 1944). An individually-administered psychological test was given to Negro and white kindergarten children in Minneapolis. Brown reports that the average age of each racial group was identical, so we can assume that they were five-year-olds. Unfortunately, Brown made no attempt to equate his racial groups for cultural factors except that all children attended non-segregated schools, and this was assumed to be an equating factor.

Although Brown reported no overlapping data, it was computed that about 31% of the Negro children equaled or exceeded the mean white score. While this is better Negro performance than in the previously reported studies, it is no better than the performance recorded by the culturally deprived Negroes of the World War I period. Thus, whatever cultural benefits accrued to the Minneapolis Negro children in 1944, they were not sufficient to change their standing, relative to the white Minneapolis children, when the World War I data are the basis of comparison.

While the fifth study was primarily directed in another direction, interesting psychological data was computed from it (Rhoads, *et al.*, 1945). The subjects were all males, Negro and white, under four years of age, and residents of Philadelphia. An individually-administered psychological test was given to all children when three years old. All children in the study had birth-weights of five pounds or over. Each child had been examined physically in a hospital clinic once a month from birth until one year of age; thereafter every two months until the end of the study. Children of unco-operative parents were dropped from the study before the child was two years old. In addition to the clinical examinations, home visits were made every two weeks by a nurse or social worker in order to keep the experimental conditions as operative as possible. Socio-economic factors were considered to be low, but generally equal for both Negro and white subjects.

Although the psychologist who did the testing reported that the Negro and white mean test scores were not significantly different, this was found to be not the case. The Negro children were significantly lower than the white children. Only 30% of the Negro scores overlapped the white mean score. Since these findings are identical with Brown's study described above, the

same comments could be repeated. For this paper, it is important to note that whatever cultural differences existed between these Philadelphia three-year-olds in 1945 and the World War I adults and adolescents did not change the relationship between Negro and white test scores.

The last study, the sixth, was done by the present writer (McGurk, 1951). A special test was constructed, half the questions of which were rated as depending heavily on cultural background (the cultural questions) while the other half were rated as depending little on cultural background (the non-cultural questions). Each set of questions yielded a score—either a culture score or a non-culture score. Total score was the sum of the cultural and non-cultural scores. These questions were administered to high school seniors in various areas of Pennsylvania and New Jersey. The mean age for each racial group was 18 years. Negroes and whites were paired so that the members of each pair—one Negro and one white—were identical or equivalent for 14 socio-economic factors.

In spite of the socio-economic equivalence, Negro overlapping, for total score, was only 28%—a figure almost identical with that reported for the World War I data. There is no question about the cultural superiority of the Negroes in 1951 over the Negroes in 1918, yet this did not improve the Negro's test performance at all.

Thus, in the 16 years between 1935 and 1950, a period of unquestioned cultural advancement for the Negro (compared with World War I period) there can be found no factual evidence to support the claim that equalizing the cultural opportunities of the two races results in equalizing their psychological test scores, or even reducing the racial test score difference. On the basis of the only studies available for this comparison, it must be concluded that the "culture hypothesis" must be rejected.

Some Further Analysis

The above findings seemed such a clear rejection of the "culture hypothesis" that the writer decided to analyse further the data obtained in the 1951 study (McGurk, 1953a). The social scientists were still persistently announcing (but not supporting) the "culture hypothesis" as the explanation for the poor Negro test performance. Specifically, the writer wished to answer this question: If the cultural opportunities were such important factors in causing racial test score differences, what would be found if we compared the difference between Negro and white subjects of very high socio-economic status, on the one hand, with the difference between Negro and white subjects of very low socio-economic status on the other hand? Under the "culture hypothesis" the racial test score

difference should decrease with an increase in socio-economic status; that is, the racial test score difference between the subjects of very high socio-economic status should have been smaller than the racial test score difference between the subjects of very low socio-economic status.

In order to follow the procedure that was used in answering the above question, it is essential to understand the composition of the socio-economic groups described in the 1951 study (McGurk, 1951). In that study, a white subject was paired with a Negro subject when the white subject was identical or equivalent to the Negro subject in terms of 14 social and economic factors. There were no white subjects higher in socio-economic status than the highest Negro subject, and there were no Negro subjects lower in socio-economic status than the lowest white subject. Each Negro subject was permanently paired with a white subject so that both subjects were equal or equivalent in terms of each of the 14 socio-economic factors.

An extremely high socio-economic group was selected by picking out of the entire group of Negro subjects that 25% whose socio-economic factors were the highest. This was called the High Negro Group. In picking these Negro subjects, the white subjects who had been permanently paired with them were also picked. This latter group was called the High White Group. There were, then, two groups of subjects, each equivalent in socio-economic status but differing in race.

An extremely low socio-economic group of Negroes was selected by picking from the entire Negro group that 25% of Negro subjects whose socio-economic factors were lowest. These became the Low Negro Group. The white subjects who had been paired with these Negro subjects became the Low White Group. Again, there are two groups of subjects, one Negro and one white, both equivalent in socio-economic status.

In terms of mean test score, the High Negro Group was significantly lower than the High White Group, but when the mean scores of the two low groups were compared, the Low Negro Group was not significantly different from the Low White Group (McGurk, 1953a). The overlapping data indicated the same relationship: only 18% of the High Negro Group overlapped the mean of the High White Group, but 41% of the Low Negro Group overlapped the mean of the Low White Group (McGurk, 1951).

Thus, in the comparison of the difference between Negroes and whites of high socio-economic status with the difference between Negroes and whites of low socio-economic status, the racial test score difference does not decrease with an increase in socio-economic status. The difference between the racial groups

was zero when socio-economic status was very low. When socio-economic status was very high, however, the difference between the racial groups was statistically significant, and in favor of the whites. These data indicate that an increase in the socio-economic status of the Negroes *increases* the racial difference—they do not indicate any support for the assumption, under the "culture hypothesis," that an increase in the socio-economic status of the Negro decreases the racial test score difference.

Other aspects of this study (McGurk, 1958a) lead to the rejection of the "culture hypothesis." Negroes, highly selected for socio-economic status in 1951, make a poorer show relative to whites of similar socio-economic status (Negro overlap was 18%) than the Negroes of the culturally restricted World War I period did relative to the whites of the same time period (Negro overlap was 29%). If the "culture hypothesis" were true, such a finding would be impossible.

Moreover, when both racial groups were very low in socio-economic status, the Negro mean score was not statistically different from the white mean score—a finding reflected in the overlapping data. This suggests that the only validity possessed by the "culture hypothesis" is when both racial groups are culturally deprived.

From the finding of this study (McGurk, 1953a) the "culture hypothesis" could be restated thus: Racial differences in mean psychological test score will disappear when cultural opportunities between the races are equal but extremely low; as cultural opportunities increase for each racial group, mean psychological test score differences increase.

This denial of the "culture hypothesis" raised still another question. It has been stated as proof of the validity of the "culture hypothesis" that Negro test score inferiority results from the culturally loaded questions used in most psychological tests, and the inference is that the low cultural status of the Negro was the cause of the Negro's test score inferiority (Klineberg, 1944). Klineberg's assumptions can be verified by comparing the Negro test performance (relative to the white test performance) on both the cultural questions and the non-cultural questions. According to Klineberg's assumption, Negro test performance should be more approximate to white test performance on the non-cultural questions than on the cultural questions.

It must be recalled that the test used in the earlier study contained an equal number of cultural and non-cultural questions. In selecting questions for the test, a cultural question was paired with a non-cultural question when each was of the same approximate empirical difficulty (McGurk, 1951).

Consider first the racial difference with the cultural questions

between members of the high socio-economic groups. The mean culture score of the High White Group was significantly greater than the mean culture score of the High Negro Group (McGurk, 1953a). Negro overlapping of the white mean cultural score, for these two High Groups, was 34% (McGurk, 1951).

The mean non-culture score of the High White Group was also significantly greater than the mean non-culture score of the High Negro Group (McGurk, 1953a), but the Negro overlapping of the mean white non-culture score was only 25% (McGurk, 1951). This does not support Klineberg's assumption; on the basis of the overlapping data, Negroes performed better (relative to the whites) on the culturally loaded questions than on the less culturally loaded (non-cultural) questions. The racial difference would have been *less* had only *cultural* questions been used. On the basis of their mean scores, however, there was no statistically significant difference between the Negro-white performance on the cultural questions and the Negro-white performance on the non-cultural questions (McGurk, 1953a). Thus, in relation to whites, Negroes perform as well (or as poorly) on cultural questions as they do on non-cultural questions. Clearly, cultural questions do not penalize the Negro of high socio-economic status.

When the low socio-economic groups were compared, similar findings appeared. For the cultural questions, the mean of the Low Negro Group was actually *higher* than the mean of the Low White Group, but the difference was not statistically significant (McGurk, 1953a). Negro overlapping of the white mean culture score was 53% (McGurk, 1951), as was expected from the mean differences. But when performance on the non-cultural questions was compared, the white mean score was significantly higher than the Negro mean (McGurk, 1953a), and Negro overlap was 36% (McGurk, 1951). The Negro-white difference on the cultural questions is significantly *lower*, statistically, than the Negro-white difference on the non-cultural questions for these two Low Groups.

Thus, Klineberg's attempted validation of the "culture hypothesis" by his insistence that culturally loaded test material penalizes the Negro must be rejected.

A further attempt to validate the "culture hypothesis" is equally forceless. It has been maintained that increased length of residence in the culturally stimulating environment of New York City causes an increase in the psychological test scores of Negroes, and that this increase is more apparent in the Negro performance on linguistic tests than on performance tests (Klineberg, 1944). This has been interpreted to mean that, with improved cultural status, improvement occurs in Negro performance on culturally loaded test material.

Analysis of the earlier study (McGurk, 1951) does not support Klineberg's (1944) findings. The difference between the mean cultural scores of the High Negro Group and the Low Negro group was *smaller* than the difference between the mean non-cultural scores of these two groups although the difference between the two differences was not significant (McGurk, 1953b). The difference in mean cultural score between the High and Low Negro Groups was significant; however, the difference in mean non-culture score between these two Groups was not significant (McGurk, 1951). On the cultural questions, about 39% of the Low Negro Group overlapped the mean score of the High Negro Group, and on the non-cultural questions, 36% of the Low Negro Group overlapped the mean score of the High Negro Group (McGurk, 1951).

While it may be true that a sample of Negro children who had lived in New York City for ten or more years achieved higher scores on *some* psychological tests than samples of other Negro children who had lived in New York City for shorter periods of time, it is by no means acceptable evidence that the cultural climate of New York City is responsible for the differences in test score. Nor is it acceptable evidence that the cultural climate of New York City increased performance on less culturally loaded test questions. The data presented here are contrary to this assumption as well as they are contrary to the entire "culture hypothesis."

Summary

The values that are attached to the moral and ethical arguments advanced in support of the "culture hypothesis" should not be confused with scientific evidence that this hypothesis possesses validity. Ethical and moral values are important according to the degree by which they are accepted and believed; scientific validation, however, is a matter of objective demonstration and should not be confused with beliefs or moral acceptance.

The available objective evidence does not support the "culture hypothesis" as an explanation for Negro-white differences in psychological test performance. In spite of this, there are many among the social scientists who persist in citing the "culture hypothesis" as if it were an objectively demonstrated fact.

This places these social scientists in a unique position among scientists; they are in the position of having accepted a hypothesis for which there is not the slightest shred of supporting evidence. Moreover, aside from their speculative argumentation, these social scientists are making no attempt to gather the required evidence.

In science, it is not the usual practice persistently to advance

an explanation for observed phenomena without making some effort to obtain empirical support for this explanation. In other sciences, to do such a thing would mean the inevitable loss of status for the scientist attempting it. Among some branches of the social sciences, to insist on validating hypothesis results in loss of status, and in this the social sciences are also unique.

This paper does not contend that the "culture hypothesis" is incorrect. It contends that this hypothesis possesses absolutely no factual validity. It further contends that the "culture hypothesis," as an explanation for Negro-white psychological test score differences is contradicted by the available objective evidence. And further, this paper contends that social science, in making no serious attempt to validate the "culture hypothesis," is violating the basic rule of science.

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THE MURIA GONDS OF BASTAR

BY R. RUGGLES GATES

The Central Provinces of India contain a welter of racial types, differing in status, from aboriginal food-gathering tribes in the forests to the highest civilized cultures. The Gonds are by far the largest aboriginal tribe in India, numbering 3,063,753 in the Census of 1931. They occupy large areas in the Deccan and represent an aboriginal type found mostly in the Central Provinces and Berar (the Gondwana of Moghul times). According to the excellent account of Fürer-Haimendorf (1945), although they were the ruling race, with Rajahs of status equal to that of many Hindu Princes, they lacked unity and leadership. As a result, they collapsed before the onslaughts of Moghul and Maratha armies, yet a feudal system persisted and a few Gond Rajahs functioned until recently.

There was a Gond Dynasty in the 15th century near the Narbada river and Jubulpore, which ended in A.D. 1780. Another Gond Dynasty of Chanda ruled most of the Adilabad district in Northern Hyderabad, and Gond Rajahs survived until recently in the Chhattisgarh States. The mass of the Gond population remain however as peasant and forest people, still at the primitive level of other aborigines, scattered tribal groups differing greatly both racially and culturally. Some extended into the Madras Presidency where they speak Gondi, a Dravidian language, and some of different tribal origin adopted this language. It is believed that a large scale Dravidianization of the aboriginal tribes preceded their Aryanization.

The Gonds thus contain various elements at different levels of cultivation. Probably Bastar, where my observations were made, was invaded by Gonds with a superior culture. The Muria Gonds probably had originally a different language. Bastar is the home of the Murias, Hill Marias and Bisonhorn Marias. They differ from the Gonds in the Central Provinces but represent the ancient aboriginal Indians, who have been undergoing ceaseless changes and migrations for ages. When the Rajput clans were driven from the fertile plains by the Moslem invasion they made closer contacts with primitive tribes in the Vindhya Hills. This led to tribal disintegration, some aboriginal tribes disappearing while others formed Hinduized castes.

According to another statement, the Central Provinces have

over four million aborigines, nearly half of which had tribal religions, the rest Hindus or Christians. The 50,000 Oraons are Christians, and Hinduized aborigines are still different from the Hindu villagers. The aboriginal tribes lost ground in the last half of the 19th century. The Government suppressed some customs, such as marriage by capture and forest burning, as it had earlier suppressed the customs of suttee and head-hunting. Prohibition, introduced in some areas, has driven the Gonds to illicit distillation.

According to Grigson (1938), who was Administrator of Bastar State for four years (1927-31), there are three main elements in the Gonds (following R. C. Roy): (1) Pre-Dravidian, proto-Australoid or Veddid (Eickstedt) who are dolichocephalic, prognathous and platyrhine; (2) Dravidian or Mediterranean, dolichocephalic and leptorrhine; (3) a slightly brachycephalic element, derived from an Alpine rather than a Mongoloid* source, since there is no epicanthic fold. They are supposed to have been responsible for the megalithic culture of erect dolmens, stone circles and menhirs, cists and cairns which has survived abundantly in parts of India. For an early account of them see M. Taylor (1873).

In 1828 Maratha officials described the Marias of Abujmar mountains to Sir Richard Jenkins as "naked savages living on roots and sprigs, and hunting for strangers to sacrifice," but the last part of this statement has not been substantiated. There was some Telegu penetration into Bastar from the South, which has left ruins of Hindu temples. These raids began about A.D. 844-1150 and their effects lasted till the Mohammedan conquest. As late as 1863 the country was "interminable forest," except a small cultivated tract around Jagdalpur. Isolated for centuries, shifting cultivation destroyed the timber and led to discontent. By 1931 the Bastar population had increased to 359,637. Many of the people were then returned as artizan Hindu castes (graziers, potters, fishers, weavers, smiths, etc.) but they originated from primitive tribes with native languages (36 languages are spoken in Bastar).

Jagdalpur became a detribalizing melting-pot. By 1938 buses were introduced, and the aborigines now go as far as Assam for work in the tea plantations. The Murias, who number c. 10,000 in Bastar, have a tradition of having migrated from the North. A distinct type of Muria is found around Narainpur. Some Murias were probably Hill Marias now living in the lowlands. The exact relationship between Murias and Marias is not clear. The Murias are considered to be more advanced, and some anthropologists can distinguish them by their features. The Bisonhorn Marias are said to be a little lighter in skin colour than the Hill Marias.

* I am inclined to regard the slight Mongoloid element in Bengal as derived at second-hand from Indo-Burmese intrusions (Gates, 1961a).

The Ghotul, or village dormitory for the youth of both sexes until marriage, is a characteristic institution of the Gonds, fully described by Elwin (1947). The Gonds of Adilabad are described by Pagdi (1949). In the 1941 census they numbered 71,874, with 7990 Koyas or Koi. The latter is a Teleguized tribe of Maria Gond speaking a Gondi dialect which is influenced by Telegu. In a description of the rapid modernizing changes which are taking place, Pagdi notes that change in social level is not necessarily accompanied by physical change, a prosperous Gond peasant being difficult to distinguish from a Telegu Indian.

The Gonds say they number 750 clans, over 100 of which are known by name. Many families have now received land grants and Government subsidies, and are thus being changed from a condition of bondage to custom and superstition into peasant proprietors and prosperous yeomanry. Gayre (1954) has discussed the development of tribal peoples in India, with particular reference to those of Bastar.

Grigson (1938) reckoned about 110,000 Bastar Murias. He describes the Gonds in general as having a dark skin, straight, coarse black hair, little or no beard, a platyrhine nose, prognathous jaw with wide mouth, thick lips and distended nostrils. One may say of the Murias of Bastar that their features are not markedly Australoid, except that the orbits are characteristically sunken and the nasal root often much depressed. Thick everted lips, giving a somewhat Negroid appearance, are frequent, but heavy brow ridges are only occasional. Heavy, everted lips also occur in other parts of Asia, e.g. in Korea. There is no present reason for seeking an African source of these characters.

Observations

My wife and I set out from Jagdalpur on November 25, 1959, in a jeep guided by the Rev. J. C. B. Singh of the American Methodist Church, with a trailer, the whole party numbering seven. After four hours of travelling along a narrow rough dirt road through forested country we reached the rest house at Narainpur, about 80 miles north east from Jagdalpur. Two villages of Murias were less than three miles away in different directions. Here is a big reservoir for washing and bathing, not for irrigation. No one knows when it was built.

As shown in Table 1, a total of 21 males and 5 females were measured in the two villages of Narainpur and Remawand. In the Table are recorded the approximate ages, the length (L) and maximum breadth (B) of the head, the cephalic index (C.I.), eye colour (in Martin's *Augenfarbentafel*), skin colour (in the Gates colour chart), length and breadth of ears, presence or absence of



Fig. 1



Fig. 2



Fig. 3



Fig. 4



Fig. 5



Fig. 6



Fig. 7

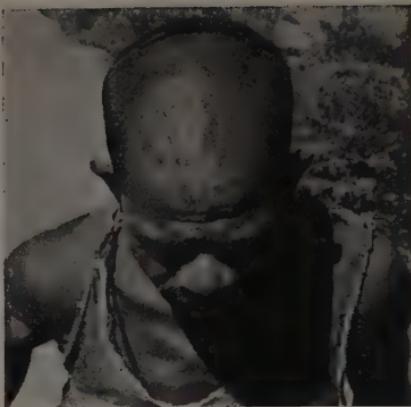


Fig. 8



Fig. 9



Fig. 10



Fig. 11



Fig. 12

a lobe, width of nostrils in mm., and stature. In the two teen-age boys the stature was not taken.

In nearly all, down to No. 19, the skin colour corresponded exactly with 3 of the colour chart. This was hardly to be expected when the chart was made of skin colours derived from American Negro X White. In some cases (as in other races) the face colour differs from that of the arms or body. This is recorded by F (face), B (body).

No. 1 (name Pirsarhu) is shown in Fig. 1 carrying a pellet bow and wearing a turban. At Narainpur is a blacksmith training centre, and Fig. 2 shows Birjuram (No. 9), one of the trainees, carrying a hammer. He appears to be a typical Muria, with heavy brow ridges, sunken orbits, half-depressed nasal root, rather broad nostrils and wavy black hair, but lips scarcely thickened.

Ten men and five women were measured at the school (primary to 5th grade) in Remawand, about ten miles from Narainpur, off the main road and farther in the forest. The simple school building with open walls was surrounded with a garden of flowers and a banana plantation, the whole enclosed in a roughly-hewn log stockade. In Fig. 3, Kandai (No. 16) is an older man with shaven head except on the occiput where the hair is allowed to grow long and the strands are braided together into one long slender braid. His sunken orbits are conspicuous but the lips are not protruding. Milu (No. 17 of the Table, Fig. 4) wears a turban, but his head is shaven in front, the sides having longer hair which is braided at the back. He has slight brow ridges but deeply sunken orbits. He has a ring in the upper rim of the ear. Mata, No. 19 (Fig. 5), has wavy black hair, sunken orbits and protruding lips (especially the lower) with pointed chin. He is holding a leaf for identification. No. 20 is Lakhmu (Fig. 6). The skin color of his face is lighter than 3 but his body is 2. He wears much jewellery and a loin cloth. He has small brow ridges, orbits not sunken, nose 1/2-depressed, nostrils broad. His black hair is slightly wavy and forms a long braid at the back. No. 21, Lakhma (Fig. 7) is characteristic of many Murias, with thickened lips more or less everted and very broad nostrils. This condition of lips and nostrils appears to be a racial characteristic in the Murias, not derived from Negroid mixture. The heavy brow ridges are apparent in Fig. 8, which was taken to show that the head is \pm pentagonoid (broadest at the occiput) in top view, contrasting with the ellipsoidal form which is more general. Pentagonoidy is a racial character of the South African Bushmen.

It will be noted that No. 12 was much taller than the others. He also had the biggest head and the largest ears, but was otherwise typical of the light-skinned type. His brother had the same

TABLE I

NARAINPUR

MALE

	AGE	L	B	C.I.	EYES	SKIN	EARS	LOBE	NOSTRILS	HEIGHT	PHOTOS
1.	c.14	175	128	73.14	4	3 exactly	53 x 23.4	small	38.5	—	Fig. 1
2.	23	179	132	73.74	4	3 exactly	45 x 24.5	none	36.3	153	
3.	c.50	185	136	73.51	4	3 exactly	67 x 32	lobe	42	157.5	
4.	13	177	128	72.31	4	3 exactly	50.5 x 28	none	40.5	—	
5.	19	184	134	72.82	4	3 exactly	57.3 x 29.6	lobe	43.8	156.5	
6.	18	171	136	79.53	3	3 sl. lighter	62.6 x 26.5	small	41.2	165	
7.	c.30	184	138	75.00	3	3 exactly	62.3 x 27	big	48	169	
8.	28	186	134	72.04	4	near 4	57 x 30.4	none	41	165	
9.	22	185	137	74.05	4	3 exactly	49.3 x 28.2	none	41.2	158	Fig. 2
10.	23	190	132	69.47	3	F2, legs	51.2 x 34	none	40.8	156	
11.	24	179	136	75.97	3	F2, arms blackish	58.3 x 35.6	small	36.5	157.5	

REMAWAND

12.	38	191	141	73.82	4	near 5	63 x 36	lobe	40	175	
13.	30	186	136	73.11	3	near 4	49.3 x 27	none	38.2	162	
14.	18	178	143	80.33	3	more red	54.2 x 30	v. small	41	150.5	
15.	—	185	136	73.51	3	—	53.1 x 32	—	40.3	160	

17.	28	186	134	73.04	4	3	62 x 34.5	—	41	160
18.	54	189	136	71.95	5	2-3	59.4 x 34	none	41	155
19.	22	183	132	72.13	3	F3, A near black	56.4 x 32	none	42	148
20.	27	180	137	76.11	3	F3, lighter	60 x 31.5	small	43	156
21.	40	181	139	76.79	3	B2 F3, B2	61.2 x 36	small	45	157.5
MEANS (21)		182.3	134.8	74.04	—	—	56.8 x 30.6	—	40.9	158.2

FEMALE

22.	40	165	128	77.57	3	53 x 28.3	small	33	147	Fig. 9
23.	25	181	128	70.71	3	F3, B2	57.1 x 33	—	34	149
24.	45	177	130	73.44	3	F3, less red	56 x 29.3	lobe	36	149
25.	27	173	123	71.09	4	B2-3 F4-5, B3-	52 x 34	none	38	138.5
26.	30	172	134	77.90	3	F3, B2	52.2 x 35	small	33	142.5
MEANS (5)		173.6	128.6	74.14	—	—	54.1 x 31.9	—	34.8	145.2

Note.—F=Face, B=Body.

features but was much shorter. The rest of the males in this Table are relatively uniform, but some show dilution of Australoid features by mixture with ordinary Indian types. The sunken eyes are here most persistent. The brow ridges are slight in many, marked in a few. The skin, as already remarked, is very uniform except in a few. The nasal root is mostly about half-depressed, but in three it is $\frac{1}{4}$ -depressed and in one fully depressed. The lips are thickened and \pm protruding or everted in 12 of the 21 males, thus forming a definite feature of the group. The black hair is generally wavy or slightly wavy and was only recorded as curly in one (No. 5).

The last five in Table 1 are females. No. 22 (Jaharli) is shown in Fig. 9 with a male companion. She has slightly wavy hair, no brow ridges, nose 1/2-depressed, nostrils narrow (leptorrhine, 33 mm.), lips thin. No. 23 (Mangaldai, with infant) (Fig. 10) has slightly wavy hair, 1/2-depressed nasal root, no brow ridges, nostrils rather narrow (34 mm.), lips slightly everted. Her arms are tattooed. No. 24 (Saite, Fig. 11) has sunken orbits, nose 3/4-depressed, nostrils 36 mm., lips thickened and lower lip especially everted. No. 25 (Rago, Fig. 12) has somewhat lighter body colour, hair wavy, no brow ridges, nostrils broad (38 mm.), lips full, slightly everted.

Looking at the Table as a whole, the means for the 21 males are C.I. 74.04 (range 69.47-80.33); ears 56.8 x 30.6 (definitely small and generally with a small lobe or none); width of nostrils 40.9 (range 36.3-48 mm.); mean height 158.2 cm. (range 144.5-175 cm.). The last figure is quite outside the range of stature for the rest. For the five women, the means are C.I. 74.14 (range 70.71-77.90); ears 54.1 x 31.9 (shorter than for the males); width of nostrils 34.8 (range 33-38 mm.); height 145.2 (range 138.5-149 cm.).

Characterizing these Murias of Bastar as a group, some have marked brow ridges and some very slight. The skin colour in general fits exactly or nearly No. 3 of the Gates chart and is relatively uniform. The nasal root is generally 1/2-depressed, the orbits generally sunken in both men and women, the nostrils ranging from wide to narrow, definitely narrower in the women. The Australoid characters are thus greatly reduced by mixture with other races, but may occasionally appear in almost full development. In general, these Murias from Central India show much less marked Australoid characters than the jungle tribes in Southern India, some of which we will consider later. The assortment of characters in individuals shows that such features as brow ridges, sunken orbits, nostril width and depression of the nasal root may be inherited more or less independently, each of these characters probably depending on a small number (of

the order of five) of cumulative genes. This probably applies also to skull shape in the series from ellipsoid to pentagonoid, as well as in that from dolichocephalic to brachycephalic (see Gates 1961). The thickened and frequently everted lips are superficially Negroid in appearance but fundamentally different, the lower lip being generally more everted than the upper. The source of these lip characters must apparently be sought elsewhere. Their origin is at present obscure. The Gonds in general are less Australoid than the tribes of Southern India.

For comparison, Grigson (1938) has the following measurements: For 100 male Hill Maria Gonds, height 162.7 cm. \pm 0.37, C.I. 76.16 \pm 0.22. For 50 male Bisonhorn Marias, height 161.7 cm. \pm 0.47, C.I. 76.21 \pm 0.27. He found the lips generally thick, with a tendency for the lower lip to be everted. There are evidently no morphological differences between these two groups of Marias. In comparison, the Murias in this paper have a slightly lower cephalic index and shorter stature.

EXPLANATION OF FIGURES

- Fig. 1 A Muria boy, No. 1 in Table, about 14, holding a pellet bow.
- Fig. 2. Blacksmith at the training centre in Narainpur, No. 9 in Table.
- Fig. 3. Older man, No. 16 in Table, much of head shaven, moustache and small beard, eyes sunken. Remawand village.
- Fig. 4. No. 17 in Table. Black eyebrows and lashes, slight brow ridges, eyes sunken.
- Fig. 5. No. 19 in Table. Brow ridges and sunken orbits, lips (especially the lower) everted, nostrils broad, chin pointed. Leaf on chest for identification.
- Fig. 6. No. 20 in Table. Small brow ridges, orbits not sunken, nostrils broad.
- Fig. 7. No. 21 in Table. Heavy brow ridges; thick everted lips and very broad nostrils.
- Fig. 8. Same head in top view to show pentagonoid (shaven) skull.
- Fig. 9. Muria woman, No. 22 in Table, with Muria man.
- Fig. 10. No. 23 in Table, with infant. No brows, orbits sunken, nose $\frac{1}{2}$ -depressed, lips slightly everted.
- Fig. 11 No. 24 in Table. Upper lip thick, lower lip +everted, orbits sunken.
- Fig. 12. No. 25 in Table. Nose $\frac{3}{4}$ -depressed, nostrils broad, lips full.

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BIOGRAPHICAL NOTES

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Ethnic Group Differences

BY S. D. PORTEUS

Until recently, memories of Hitler with his untenable racial theories and abhorrent practices were so fresh in people's minds that the further exploration of ethnic group differences was almost taboo. Even seriously-minded investigators who believed that the evidence for such differences was plain, hesitated to publicize these views lest they feed ammunition to the racial extremists.

Now that the emotional nausea has subsided, a new determination to sift available evidence on this controversial subject has arisen. Scientists should welcome this tendency, particularly in relation to evaluating proofs of certain mental and temperamental traits of importance to human adjustment.

Even before World War II, the subject had become, for certain social psychologists, a very tender one. The idea that all men of whatever racial constitution or skin color were born with equal individual potentialities was of course such a beautifully consoling illusion, that it was no wonder that it was defended with emotional fervor. It lay the whole world open to the wonderful designs and admirable efforts of missionaries, educators, social workers, reformers, and extreme environmentalists; in short to all those who are somewhat slightly referred to as "do-gooders." In our opinion this derogatory term has been applied solely because of the gap that exists between aims and performance. This gap exists because of the inevitable conclusion that men, either singly or in groups, are not of uniform mental status and potentialities. No assumptions by the egalitarians will make them so. This statement does not of course refer to the range of abilities. Very superior individuals may appear among the least favored groups, idiots among the most cultured.

As a first step towards clearer understanding it should be recognized that the desire to "do good" is one of the most laudable human attributes. Who would not wish to do good? The tragedy that is inherent in the situation is that we fail to do better. Scientific attempts to explore human inequalities are themselves an effort to do good. But we must recognize that both individual and group differences constitute one of the most inescapable facts of human evolution. It is distressing—but still a sober fact—that the individual is not at birth a *tabula rasa* on which the moving pencil writes what it may. The structure of the *tabula* helps to

determine what shall be written thereon, and pencils are both hard and soft. This we believe to be a more clearly self-evident fact than any noble affirmation of equality. However, it is a truism as much as regards social as ethnic group differences. We would prefer to forget altogether the question of superiority or inferiority in racial groups and devote our efforts to investigating differences.

But there still remains the difficult problem of how to measure these differences, whether natural or acquired, and here there is room for disagreement. In our opinion, the status of ethnic group differences is akin to that of differences between the sexes. No one, we think, would commit himself to the claim that one sex is generally superior to the other; but there are many questions of comparison unsolved. Do females learn slower or faster than men? Do they retain knowledge worse or better? Are they more systematic or more conforming? Are they more or less creative than men, and in what directions? Are they more prone to diseases of different types, and why? Are they more careful about details, more or less logical in reasoning? The questions are still open, mainly because of the dearth of reliable instruments and the difficulties of proper sampling of tested groups. The same problems arise in determining ethnic group differences, but sex comparisons seem to be happily free from emotional and prejudicial overtones.

One handicap to scientific investigation of ethnic group differences should be recognized at the outset of this discussion. The ordinary means of measuring mental differences were devised and applies by whites, and wherever they are dependent on facility in the English language are obviously unsuitable. Language is the vehicle of education, and many tests are very heavily weighted by knowledge of vocabulary, as well as computing ability, or general information, all of which are the prime interests of the educator. If the test is language free, it is still necessary to prove that its material is basically familiar to culturally various groups, and even more important, that the test is inherently interesting. The material may be "culture-free," but it is quite possible that it is *interest-free* also. Any investigator of the mentality of primitive peoples will soon find himself faced with this consideration.

Sometimes primitive peoples' indifference to, or even contempt for certain tests, is surprising. The building of simple designs with colored blocks, for example, was thought to be the kind of task that savages would find appealing. Australian aborigines were obviously not interested in such a task. To them it was merely child's play. Though they had a manual sign language, they held the Thurstone Hand Test, in which drawings of left and right hands are sorted according to the position of the fingers, in similar

contempt. To them it was so simple as to be meaningless. As to local cultural factors, their influence must also be considered. Children in Hawaii, where chimneys are rare, saw nothing incomplete in a picture of a house without a chimney.

It would seem obvious that tests of this character are useless in the attempt to measure ethnic group differences in mentality. To compare learning ability using the symbols that are common to white schooling is a futile procedure. Even pictorial representations common in our culture, such as using a sphere with radiating lines to represent the sun, may be meaningless to savages.

Before going further a note should be made with regard to the word "race." Apparently anthropologists themselves disagree as to the value of the criteria commonly employed to differentiate races of mankind. The most extreme view is that the term has therefore no meaning. The Australians, for example, show a diversity of racial characteristics. They are long-headed, straight or wavy-haired, are of very dark, almost black skin color, are hirsute, have blood groupings very similar to Anglo-Saxons and are of medium to tall stature. Yet because these differences cut across some of the accepted criteria that distinguish races, there seems to be no good reason for denying that these people do constitute a separate race, one that has been cut off from the rest of mankind for possibly ten thousand years. Once Australian aborigines have been given this racial status, there seems to be no further point in arguing that race has no meaning. Geneticists did not invent the term and can hardly assume any right to restrict its usage.

A similar position has been taken up by the writer with regard to racial mental differences. Once they have been firmly established for the Australian race, the question of their reality is settled. Unfortunately, the evidence is scanty. Psychologists are certainly not very mentally alert or they would not have missed the great opportunity to explore and describe Australian aboriginal intelligence. Their neglect to do so is similar to missing the chance to investigate thoroughly the mental effects of lobotomy or surgery of the frontal lobes. With regard to what work has actually been done in this latter field, most psychologists are crassly ignorant. With the advent of tranquilizing drugs, lobotomies are rare, and the opportunity to investigate adequately their mental effects is almost completely lost.

As regards ethnic studies, it might be well to avoid difficulties of definition by speaking of racial types—Melanesians, Polynesians, Australoids, Chinese, Japanese, etc., members of each division sharing to a greater or less extent certain physical characteristics, so that they can be commonly recognized as belonging to the designated group. Obviously, there are few, if any, pure racial

types or groups, although peoples such as the Bushmen of the Kalahari and the Australian aborigines are very easily distinguishable. The concentration within the group of physical characters, such as extremely large supraorbital ridges in the Australian, or light yellow color, small stature and "triangular" faces among the Bushmen, is obviously due to intermarriage among a geographically isolated people. Throughout this paper we shall speak of ethnic groups in the above sense, without regard to racial intra-relationships. But as is the case with psychosurgery, the opportunities for investigating such a race as the Australians are fast diminishing. As regards South African Bushmen, they may be gone completely.

Most of the work done by the author in this field has been based on the Porteus Maze Test in its original form. Other tests such as form boards and specially devised tests including dot number estimations, recognition (from photographs) of footprints have been applied by him, but with considerable dubiety as to the value of the differences reported. The reasons for doubting the validity of these results have already been discussed, the main objection to their use being the unfamiliarity of primitive peoples with the test material, lack of interest and therefore effort in performance, the strange appearance and behaviour of the examiner. Communication between a white psychologist and a Kalahari Bushman might be as difficult as between a visiting Martian and ourselves, but it can be achieved. As one anthropologist puts it, communication is mainly "by signs and wonders," and it is strange that this may be still practically effective.

Actually, this partial block to communication may be due, not to distrust or fear, but to avid curiosity. The Bushman may be giving more attention to the stranger than to the test. In our experience, the sharp edge of curiosity is soon dulled, and once the white man has been well looked over and thoroughly discussed, anything of real interest that he presents to the native is eagerly experienced. Nor can it be assumed that the savage is impressed with his own inferiority. When the interpreter explained to the Bushmen that the white man could not speak their language, their kindly comment was, "Tell him we are very sorry for him."

To the experienced investigator some arm-chair criticisms are merely amusing. Some reviewers* complained about the small number of subjects examined—25 male Bushmen and 120 male Australian aborigines—forgetting that these numbers represented, in both studies, one examinee or subject to at least 100 miles of arduous desert travel.

Another critic, in the pages of the August London *Times*

* *Primitive Intelligence and Environment*. Macmillan & Company, New York, 1937.

Literary Supplement stated that the author's subjects were too sophisticated, and regretted that they did not include wild natives who took to the trees at the sight of white explorers. Unfortunately, the examiner was not an expert tree-climber.

Even a well-disposed critic such as Klineberg wondered how tests obtained from the author's tribal brothers who looked for help from the examiner, or examination data obtained from an aboriginal murderer wearing leg-irons and watched over by an armed trooper, could be representative. However, once the Arunta were told that they must solve the problem by themselves, they went at the task with avidity; Gurug, the murderer, was so pleased with his good performance that he wanted to do the tests all over again. Moreover, the aboriginal performances in these instances were excellent.

Some criticisms were much less pleasant in tone. Reviewers here and there were indignant at the claim that these examinations represented a pioneer excursion into primitive psychology and at the same time they objected to the sparcity of the tests applied. The "pioneer" claim was substantiated by the fact that there were no other tests available. It is surely pioneer work when the investigator must forge his own tools. Others objected that the tests were too simple, being merely "baby plays and mazes." This, of course, reversed the usual complaint that the tests were too difficult and complex for primitive experience.

Other critics would sweep all the evidence under the mat as being inconsequential. Bruno Lasker, for example, stated "Instead of wishing this excellent book* many editions, we may therefore hope rather that it will take its place at, or near the end of an immense quasi-scientific literature that has led into a blind alley." To this one might reply that to those who are unseeing, all alleys are blind.

In 1938, the criticism that the tests used were inconsequential might have been more justifiable than at present. The chief instrument used was the Porteus Maze, a graduated series of pencil and paper mazes through which, under standard conditions, the subject has to find his way. Though paper and pencil are new to savage experience, graving tools and geometrical designs are quite familiar to most primitive peoples. From Bushmen up, they take great interest in decorating implements and weapons with conventional designs. There was no doubt about their acceptance of the test as something worth spending effort and attention upon. The Australians especially engrave designs on their sacred *churinga* and the labor expended on finding their way through

* *The Psychology of a Primitive People.*

the printed labyrinths was of the most concentrated type. The Bushmen also rescued test forms from the campfire and, using charred sticks, worked their way most diligently through the designs. Then they took them home to their villages "to show our women how clever we are."

One weakness in the research plan was not apprehended sufficiently by either the critics or the examiner—the lack of fore-practice in the test. This would have diminished the cumulative effect of local cultural differences, unfamiliarity with the examiner and the test, etc. Unfortunately, at that time there was only the original Maze series available. Any use of the easier mazes for demonstration and fore-exercise would have restricted the material needed for actual testing. Now we have three Maze series which, if used in succession, eliminate the effect of practice on scores.

The fact that of all tests in the psychologist's repertoire the Maze is the most consistently sensitive to operative damage to the frontal lobes had not in 1938, as now, been demonstrated over and over again by the most careful investigations such as the Columbia-Greystone Projects (1949 and 1951) and the New York Brain Study. Now it is generally accepted by all who have studied the evidence, that human adjustment particularly in regard to foresight, planning, and mental alertness is most consistently indicated by Maze Test performance, and this would apply to both civilized and primitive individuals. "Baby plays" do not give any such neurological and behavioral insights.

For these reasons the interpretation of Maze Test results no longer rests on the observation that low levels of performance are characteristic of retarded individuals, especially those who are least adaptable to civilized living. Now we have the added knowledge that the tests reflect a lowered capacity in directions that are basic to human survival at either civilized or primitive levels. We know, of course, that verbal reasoning, computing, ability to learn to read and write are not essential to survival, since man survived without them. All the evidence, however, now points to the conclusion that the abilities tested by the Maze, particularly mental alertness and capacity for planning ahead, are much more fundamental to survival than scholastic educability. Apparently, awareness is mediated by entirely different brain structures such as the reticular formations in the brain stem, whereas intellect as contrasted with practical intelligence is subserved by more recently evolved cerebral areas.

Actually the frontal lobes can suffer all kinds of surgical damage without any serious loss of scholastic educability. On the other hand, damage to the prefrontal brain, especially those areas with most direct relations with the brain stem and the reticular system,

results in blunted sensitivities and emotional indifference, with an impaired capacity to deal effectively with the environment.

As the books describing previous ethnic investigations using the Maze are out of print, it is necessary to present as briefly as possible the high points of these racial group studies.

In spite of all the arm-chair criticisms as to the unsuitability of the Maze Tests, the Australians did surprisingly well. The Central Australians, who live in an arid region where droughts are recurrent so that the small wandering tribes are often on the verge of starvation, scored at the relatively very satisfactory level of 12.08 years, or 1.6 years above the average North-western Australian natives who live in a well-watered though hot and humid area where food supplies are plentiful. In both contrasted regions there were mission schools and degrees of contact with whites were about equivalent.

Actually, the Central Australians were only somewhat below the two ethnic groups with the best Maze performance, a Tamil group in India and the Ainu of Northern Japan. The Karadjeri in North-west Australia matched in performance the Senoi of the Malayan mountains and the Bajou, or sea-gypsies of the Sulu Archipelago. The lowest scores were achieved by the Negritos* of the Zambali mountains in Luzon, the Sakai-Jeram of the Perak coast regions and the Bushmen of the Kalahari. These groups were three to four years below the average of the Central Australians. No operative factors which the investigators could detect would explain such a disparity in scores, and it must therefore be ascribed, at least in part, to ethnic group mental differences. In any case, environmental differences would not account for the inequalities in scores. As previously noted, fore-exercise and the use of the present forms of the Maze would undoubtedly have given more reliable results.

Fortunately since 1934, when most work was done with the Maze on primitive ethnic groups, there have been some rather marked developments in the tests with consequently greater applicability in the area of mental and temperamental differences. As previously mentioned, there are now three test series so that one can be used for practice; hence the primitive subject will be quite familiar with what is expected of him. Judging by the almost painful effort shown by such primitive groups as the Alorese (Dubois, 1944) and by the Central Australia Iliaura (Fry & Pulleine, 1931) there seems little danger of the subjects of such examinations losing interest in the testing.

* One psychologist complained that results with Bushmen were not combined with those of the Negritos, thus making up a true pigmy racial group. The Bushmen are, of course, not pygmies.

The second development concerns what is called the qualitative scoring, or Q-score. The usual instructions are given before presenting the test, including warnings against lifting the pencil off the paper, crossing lines or cutting corners. These instructions could be translated into the native language, or, better still, conveyed by pantomime during the progress of the practice series.

A number of investigations throughout the U.S.A. have shown that weighted error scores* are significantly higher for juvenile delinquents than for non-delinquent students of equal age, race and social and educational status. It would seem from these findings that delinquents are, as we should expect, more careless in execution, more impulsive and more neglectful of instructions than non-delinquents. These negative traits apparently lie in the temperamental field. The correlations of Q-scores with Maze Test ages are low, of the order of -0.3 or -0.4 . Considering that such temperamental factors as impulsiveness also enter into test age performance, these low correlations are surprising and indicate that the two measures are of a somewhat different nature.

That Q-scores are affected by environmental factors such as home and school control and delinquency rates in neighborhood areas seems extremely likely, judging by existing evidence. For example, three groups of Part-Hawaiians were contrasted, the first attending an excellent, well-endowed boarding institution, the Kamehameha Schools, the second, public high schools, the third, the Training Schools for delinquents at Koolau, Hawaii. These three groups represent the ultimate differences in educational environment. The results of the whole study show a spread of average scores in the expected direction.

We mention this point because of the objection commonly made that test scores may be affected by nutureal influences. This is certainly true as regards Q-scores, but from our point of view the fact is not of extreme relevancy. In the first place in such comparisons it is quite impossible to separate exactly what is due to nature and what to nurture. Whether Topsy was born or grew that way does not, for any practical reason, matter. Each individual's status among his fellows is the result of a very complex interplay of hereditary and social influences. Whether a person grows up to be careless, unsystematic, untidy, and a sloppy worker because he was not taught and disciplined to be otherwise, or whether he was born with strong tendencies to conform or to take easily the impress of environmental pressures, who can say? The psychologist who arrives at a determination of where the individual

* See *The Porteus Maze Test and Intelligence*, 1950, p. 167 for instructions and scoring, or the later volume, *Porteus Maze Test and Clinical Psychology*, 1959.

stands in a Maze Test has no interest in the insoluble question of how to allot the proper weight to such natural or formative factors, but rather with the person as he is.

With regard to mental brightness, which is not synonymous with intelligence, the author confesses doubt and even impatience concerning present-day practices of arriving at what is mistakenly termed an "intelligence quotient" by means of an arbitrarily weighted hodge-podge of sub-tests which make up a Binet or a Wechsler-Bellevue score.

With the question whether such misleading developmental labels remain constant, we have even less concern. We would, however, point out that the Maze Test is not a hodge-podge but a graduated test of a single complex of mental traits clustered about the capacity of mental alertness in planning. Test quotients are sometimes reckoned but are kept in reasonable perspective. Under the latest scoring only a maximum T.Q. of 135 is obtainable. No one can possibly boast of an I.Q. of 170 or above as is sometimes quoted, quite absurdly, for tests of so-called "general intelligence." The school of thought represented by Terman, who held that eminent men *must* have high I.Q.s, and when it was impossible to determine the test level, blithely assigned a very elevated figure, is declining in favor. The Binet based I.Q. has been sadly over-emphasized.

A third development which is based on Maze material but which constitutes an entirely new approach is that described in a recent issue of *The Mankind Quarterly*. This is a non-intellectual measure of what seems to be an important temperamental trait, namely, the tendency to conform to self-established patterns of behavior, or, conversely, to vary that behavior in detail. One important point in relation to this measure is that it is new, and therefore as novel in application to whites as to others.

Obviously this measure belongs to the field of personality rather than that of mental ability; an important consideration, since measures of mentality are legion, while reliable tests of personality development are rare. Some of the most interesting, such as the Rorschach test, are very difficult to interpret, and the validity of their results is in serious question.

Since the C.F. (conformity-flexibility) scores are based on a comparison of performances of one Maze design (Year XI) when the test has been repeated, and considering the acceptance of the Maze Test by primitive groups, it would seem to be a natural choice for inter-ethnic group comparisons. One advantage of the new and unique nature of the test is that no one can possibly approach the study with any preconceived notions or prejudices with regard to superiority or inferiority of performance. The

application of the test may however present scientific evidence as to the validity of many theories of temperamental differences that are at present mere assumptions.

This rather long discussion has been thought necessary to clear the way of misconceptions and objections. It is not based on any endeavor to prove white superiority; actually, in regard to the Maze, extremely primitive people such as the Arunta and Luritcha of Central Australia made relatively excellent scores. One Luritcha native, who had never seen a pencil and paper and only one other white man in his life, made an excellent performance, thus proving that the range of Maze scores was the same for these aborigines as it is for white high school students. Furthermore, we recognize the principle that testing should not begin until natives are quite familiar with the appearance and ordinary behavior of a foreign examiner. This we believe to be even more important in affecting performance than mission or native schooling. The ability to add a column of figures, to speak a little restricted English, even to read a primer, has very little to do with ability to deal successfully with a maze. Otherwise there would be a close correlation between scholastic ability and the Maze, which all experience contradicts.

As regards the study reported hereafter, there were no educational inequalities among subjects. All were pupils in the tenth grade of intermediate high schools in Honolulu and were thus of equivalent age. The groups consisted of Japanese males (N183) and Japanese females (N198); Chinese males (N42) and Chinese females (N57); Part-Hawaiian males (N99) and Part-Hawaiian females (N82). These comparisons were made on the basis of mean Maze Test ages, mean qualitative scores (Q-scores), and Conformity-Flexibility (C-F) scores. It should be repeated that Q-scores represent errors in technical execution such as crossed lines, cut corners of the Maze design; hence the lower total error score, the better performance.

As regards C-F scores, there are at present no judgment values possible; all we can say is that high scores indicate a neater, more systematic style of response with greater tendency to self-conformity. There is evidence (Porteus, Barclay, Culver & Kleman, 1960) that a tranquilizing drug tends to fixate the type of response. We theorize that scores in the extreme ranges indicate faults of personality and that normal, well-adjusted people score in the middle ranges. Since the approach is entirely new, with no right or wrong responses, no one's pride can be hurt by ethnic group comparisons.

Sex differences in Maze Test ages are evident. In 12 independent studies known to the writer, males have excelled females,

but in none of these is the difference large enough to reach significance. But the unlikelihood of such a consistent advantage being due solely to chance is extreme. Any relay track team that can beat another 12 times in succession would be considered undoubtedly superior. These studies have all been described in the literature and illustrate the value of the repeated experiment.

It is also noteworthy that Drs Joseph and Murray (1951) report that Chamorros and Carolinian males on Saipan excel females in the Porteus Maze at every age level. This supports Porteus's observations (1931) as regards the superior test ability of Australian aboriginal males.

As regards average Maze Test ages our study did not reveal any significant ethnic group differences. This result was entirely to be expected, as high school students represent an educationally selected group. It also illustrates the futility of basing ethnic group comparisons on college or high school students. Only a comparative study throughout the whole range of ability would be meaningful.

One other comment is pertinent. We have included a group termed Part-Hawaiians who of course are not a true ethnic group. We believe that if any individuals of mixed ethnic ancestry are segregated for mental comparisons they should, if included at all, be classified with the people of their main blood lines. It seems strange to classify a person with one-sixteenth or less Hawaiian blood as Part-Hawaiian. However, many people in Hawaii prefer to claim Hawaiian descent. The case with regard to Negroes* in the U.S.A. stands differently. Why should not individuals be classified as whites if their ancestral background is mainly white?

Turning now to qualitative scores which reflect temperamental traits, the differences seem clear-cut. Sex differences are only significant with regard to Japanese males, and work out at the .01 level of confidence. It is, however, the ethnic differences that are most interesting, since they support the prediction which the author made in 1927 that temperamental traits more than mental abilities differentiate ethnic groups. At least they are easier to demonstrate.

The Chinese had excellent Q-scores—males 20.5 points, females 19.6 points. With the sexes combined the means were Chinese 20, Japanese 26.5 and Part-Hawaiians 30.7 points. In the last two groups females had a slight advantage. This trend is reversed when delinquents are compared. In other words, if a girl is in serious trouble, her temperamental defects are usually

* The use of the capital letter in this word is a concession to racial sensitivity. Actually the use of the designation "negro" is no more derogatory than is characterizing the Caucasians as "whites." Hereafter in this paper lower case letters will be used for both.

very apparent. Here then is an ethnic group difference that is as well-attested or even better attested than sex differences.

The best light we can throw on the meaning of these observed differences comes from the fact that high scores are related to delinquency. This has been proved by a number of independent investigations (Porteus, 1942; Wright, 1944; Grajales, 1948; Doctor & Winder, 1954; Fooks & Thomas, 1957).

One illuminating study by the author of delinquents and non-delinquents was reported in 1959. Cases were matched by sexes, chronological age and Maze Test ages. Normal boys scored 22 points, delinquents 43 points; normal girls scored 25 points, delinquent girls 56 points. Obviously high Q-scores distinguish delinquents, though there is some overlap.

In connection with our present study we compared two groups of cases, one on attendance at Kamehameha Schools, an excellently endowed, well-run boarding institution for Part-Hawaiians, the other, inmates of the Training Schools for delinquents. We included only children with good Maze Test ages of 15 years or above.

Non-delinquent males (N42) averaged 24 Q-score points; delinquents (N23) averaged 49 points. Non-delinquent girls (N39) averaged 22 points; delinquent girls (N50) 40 points. Thus, in order to institute the severest Q-score comparison we could devise, we eliminated all cases with low Maze Test age performances. The cases with many unsuccessful trials naturally have more chances to amass qualitative errors. In other words, delinquents with the best Maze records commit almost twice as many qualitative errors as non-delinquents of equal test ages.

Summary

The main conclusion that is warranted by this present study is that significant ethnic group differences do occur in the temperamental traits reflected by the Porteus Maze Test qualitative scores. The importance of these differences is proved by the fact that the mean performances of delinquent groups are on the average almost twice as bad as those of non-delinquents. Our results apply only to Japanese, Chinese, and Part-Hawaiian high school students of equivalent age and scholastic standing in Honolulu.

It would seem that white and negro temperamental differences in this direction should also be carefully investigated. As this inquiry would not be concerned with mental test ages but solely with temperamental trends, no special sensitivities based on ethnic ancestry would be involved. We would also suggest that this investigation would apply to full-blooded individuals only. If mixed bloods are involved, then the predominant physical charac-

TABLE I

MAZE Q-SCORES FOR THREE ETHNIC GROUPS COMPARED

GROUP	N	MEAN	S.D.	GROUPS	DIFF.	SIGNIF.*
Japanese	381	26.45	20.37	Jap.-Chin.	6.38	.01
Chinese	99	20.07	14.98	Chin.-P.H.	10.70	.001
Pt-Hawn	181	30.77	19.79	Jap.-P.H.	4.32	.02

* Fisher t-Test

TABLE II

TEST AGES AND SEX DIFFERENCES—THREE ETHNIC GROUPS

GROUP	N	MEAN	S.D.	MALE X	N	FEM. X	N	DIFF.
Japanese	381	15.67	1.27	15.80	183	15.54	198	M= +.26
Chinese	100	15.80	1.55	15.99	42	15.66	58	M= +.36
Pt-Hawn	181	15.09	1.77	15.38	99	14.74	82	M= +.64*

* Significant at the .02 level

TABLE III

SEX DIFFERENCES—CONFORMITY-FLEXIBILITY SCORES

GROUP	N	MEAN	S.D.	GROUP	N	MEAN	S.D.	DIFF.	SIGNIF.*
Jap.-Males	50	9.70	4.18	Jap.-Fem.	49	12.67	4.99	2.97	<.001
Chin.-Males	35	10.06	3.98	Chin.-Fem.	42	12.77	5.28	2.71	.02
P.H.-Males	53	10.25	3.86	P.H.-Fem.	54	11.19	5.00	0.94	<.10

* Fisher t-Test

teristics should determine the ethnic classification. However, exclusion of part-negroes or part-whites would avoid any such difficulty.

As regards the larger issue of racial differences, the writer believes that the means of measurement have been extended and improved in the 31 years that have elapsed since the main field work on this question was done. At least this is true of the test series that is most applicable—the various forms of the Maze. Moreover, through the results of psychosurgery the test results have been invested with new meaning and validity. The inadequacies of the earlier approach can now be avoided. It is noteworthy that in spite of these acknowledged defects, no psychologist in the last quarter of a century has produced results that in any way contradict these findings. They have been disregarded, but never refuted.

Considering the importance to the world of ethnic differences, we propose that UNESCO undertake the sponsorship of an unbiased investigation of this subject. Surely a committee could arrange such questions as choice of subjects, testing approaches, sampling, and could forecast the lines of possible interpretation of results.

In the writer's opinion no country or ethnic type of subjects offers such opportunity for study as the center and north-west of the Australian continent. Admittedly, the number of individuals suitable for investigation is diminishing, and the cost of expeditions has risen, but on the other hand, the means of travel and sustenance of field work, together with the measuring tools, have improved. Other workers besides psychologists should be represented on the team of investigators, but the crux of the inquiry should be the mental and temperamental differences.

We sincerely believe that if UNESCO were to initiate and financially support the scheme a great contribution to the scientific knowledge of mankind could be made, one which would save years of fruitless, often acrimonious debate. The statement sometimes heard that the question of racial or ethnic group differences has been settled is completely untenable.

Pictorial Languages of China and Japan

By A. C. HYDE LAY

The speculative question might be, and has been asked, whether the written Chinese language, being so "cumbersome," has been an important factor in retarding the development of China, while, on the other hand, the modern Japanese language has enabled Japan to go faster ahead.

There are 44,449 characters, hieroglyphics or symbols in the authoritative dictionary of the Emperor K'ang Hsi, who ascended the throne at the age of 8, in 1662, and reigned until 1723. It is a massive work, with prestige almost equivalent to that of the Authorised Version of the Bible.

The meteoric rise of Japan to the status of a first-class Great Power, with her victories in the Sino-Japanese War of 1894-5, and the Russo-Japanese War of 1904-5, stunned the world. Two colossal continental countries, fighting against island "dwarves," as the Chinese were wont to speak superciliously of the Japanese, had been defeated within a decade.

The more recent, remarkable, material advancement of China, under Communism, and her achievement, in fact, of the position of a Great Power, although not represented in the United Nations, while tiny territories which have suddenly required sovereignty are members of that "exclusive club," has been attained, ironically, at the expense of that freedom of speech for which the Chinese people have been distinguished for centuries, despite the "cumbersome" nature of their beautiful pictorial language.

It is a vast subject, and only a few aspects of it can be compressed into a short article, by a process of elimination.

In practice only 7000 or 8000 of these 44,449 characters were employed. No scholar ever knew them all thoroughly, without reference to the dictionary. It is a striking parallel that Dr Johnson's famous lexicon which was almost contemporaneous and only slightly post-dated that of the Emperor K'ang Hsi also contained about 50,000 words, while modern dictionaries in England and America can contain up to half a million words. At the same time and at the opposite extreme we have Basic English which with 800 words can convey crudely what Shakespeare expressed so much more richly.

China also has had a simplified language since 1917 for in that year Dr Hu Shih, the "father of China's literary renaissance," promoted a new literary style of the common people, called *pai hua*, "white speech" or "plain speech." The vernacular style like the classical still uses the ideographs but reduces them. A "Basic Chinese" with only 1319 characters was introduced by James Yen for farmers and labourers. Dr Sun Yat-sen's famous revolutionary charter, "The Three Peoples' Principles," or *San Min Chu I*, used only 2134 different characters.

My father wrote a book published in 1895 entitled *Chinese Characters for the Use of Students of Japanese* which contained 4000 specially selected characters, which he estimated could be mastered in two years. Sir Walter Hillier, the sinologue, held that 2000 characters were ample for all ordinary purposes. I myself studied Chinese for about 6 hours daily for 6 years but long before the expiry of that period I could read novels like the *Hung Lou Meng* or "Dream of the Red Chamber" and newspapers quite easily, always with dictionaries handy, but then I was very keen on it. Some other members of the Chinese Maritime Customs Service, in which I served and in which it was obligatory to study the language, found it a frightful bore and in fact averred that people who studied it too hard became mentally unbalanced, a good excuse for their own ineptitude in this respect. One is reminded of what Somerset Maugham wrote of the sinologue in his book *On a Chinese Screen*: "Here is a man who has touched reality only through the printed page. The tragic splendour of the lotus moves him only when its loveliness is enshrined in the verse of Li Po and the laughter of demure Chinese girls stirs his blood but in the perfection of an exquisitely chiselled quatrain."

Japanese is easier to study and read at first due to the *kana* system of writing which was introduced about 1200 years ago by the Japanese themselves and is in no way a foreign importation. Most Japanese books are written in a mixture of Chinese characters and *kana*.

Whereas a Chinese character represents a whole word—an idea—the *kana* represents the sounds of which the word is composed, just as our Roman writing does. Consonants can be softened by placing two dots to the right of the letter, thus *ka* becomes *ga*, and *te* becomes *de*, and so on.

Ethnological Aspects and Cognates

With regard to the ethnological aspects of the two languages, and any association between them and the Mongoloid race, as distinct from the type of language developed among the Caucasoid, I have refreshed my memory by reading over several selected

volumes of *The Transactions of the Asiatic Society of Japan* dating back to 1888, which are still in my possession, and although it is manifestly impossible to sum it all up in a few generalisations when experts have filled volumes on such subjects—I shall touch on a few points I have picked out.

Basil Hall Chamberlain, formerly Professor of Japanese and Philology in the Imperial University of Japan, author of *Things Japanese*, which is a classic, says: "Europeans have been studying Japanese for well-nigh 300 years and are still disputing its origin. The Japanese, having obtained their civilisation from China and Korea, were inevitably led to adopt the ideographic system current in these countries. Its introduction into Japan seems to have taken place about A.D. 400, but the chronology of those times is extremely obscure."

According to Chamberlain it is still doubtful under what family of languages Japanese should be classed, although in structure, but not in vocabulary, it closely resembles Korean, and both it and Korean may be related to Mongol and Manchu, and therefore lay claim to be included in the "Altaic" group. Though not originally related to Chinese, Japanese has adopted an enormous number of Chinese words, including terms to indicate new ideas.

Japanese grammar bears no resemblance to English grammar, but the history of the Japanese vocabulary does bear a marked resemblance to that of the English vocabulary in that both have been interpenetrated by foreign elements: in the case of English, the native Saxon and imported French and Latin from one common Aryan source, in the case of Japanese, the imported Chinese element.

However, community of grammar is precisely what Chinese and Japanese lack. In every point of grammar Japanese agrees with Korean; in almost all it agrees with Mongol and Manchu, while none of the four agrees with Chinese. A striking peculiarity is that nouns only are borrowed by Japanese from Chinese, never verbs. Korea, with the island of Tsushima as a stepping stone, was the only likely road from the continent of Asia to Japan. During early times there can have been little or no contact or connection between a language found in the middle of a continent (viz., the upper part of the Yellow River valley) and an archipelago beyond the seas, far away from that secluded valley. Words such as *uma*, "a horse," from Chinese *ma*, and *ume*, "a plum-tree," from Chinese *mei*, were almost certainly introduced into Japan from China and Korea, their place of origin.

Professor C. K. Parker, another great authority, says that Japanese is a composite language and we may expect to find cognates of Japanese words not only as far afield as Easter Island and

Madagascar, the remotest outposts of the Oceanic group, but in Finland and Hungary, the western termini of the Ural-Altaic group. "I feel certain that we shall be able to find cognates for a third of the words in so-called Japanese native speech. For some we must necessarily look to Ainu. A much larger number will be found in Korean. Ancient Chinese will supply a few. Turkish and Mongolian dialects will provide at least 150. Finnish will not be so productive as Turco-Tartar, but I have found a number of illuminating forms in Samoyedic."

Even Amerindian cognates of Japanese words have been found, e.g. *sosogu*, the Japanese for "to pour," may be compared with Delaware *sokelan*, "it rains," Natick *sokanan*, "it rains," and Manchurian *sokto*, "to get drunk"—to which I would add the English word "soak," with liquid connotations!

This subject has been pursued at great length by others, but unfortunately, or perhaps fortunately, I have only about 1500 words, which I run the risk of exceeding, in which to compress the whole topic of the pictorial, written and spoken languages of China and Japan, as well as the etymology, whereas Professor Parker in his paper or lecture aforementioned had over 20,000 in which to consider academically merely twelve Japanese words and their cognates. (*The Transactions of the Asiatic Society of Japan*: Second Series, Vol V, 1928). Not that one gets very much further by probing too deeply.

I shall conclude with the aspect of the subject that fascinates me most, namely the pictorial language or ideographs, a few of which I have depicted to the best of my ability in the accompanying illustrations, as well as the Japanese *kana* syllabary. The *kana* stands for syllables, not letters. Without making any pretensions to being a calligraphist of any sort, I have written the characters as they would appear when printed in a book or newspaper.

Chinese and Japanese calligraphy is artistic, and it is bold, because it comes from the shoulder instead of merely from the wrist. Characters can be written in many different ways—in square, seal, grass and various other types of script. An American friend of mine, Arthur Hart Burling, in his outstanding book on *Chinese Art* says: "In our collection is a birthday scroll on which the character "Shou" (long life) is written in a hundred different ways by a hundred different artists and poets." I make no attempt here to present any illustrations in grass characters.

CHINESE RADICALS

man	mouth	earth	great	woman	roof	heart
人	口	土	大	女	宀	心
9	30	32	37	38	40	61
hand	day, sun	wood	water	fire	disease	grain
手	日	木	水	火	宀	禾
64	72	75	85	86	104	115
bamboo	silk	grass	speak	carriage	gold	gate
竹	糸	艸	言	車	金	門
118	120	140	149	159	167	169
eat	horse	fish	bird	dragon	tortoise	flute
食	馬	魚	鳥	龍	龜	龠
184	187	195	196	212	213	214

The above is a selection from the 214 Chinese Radicals, showing some of those most commonly used, just as in an English Dictionary the letter "P" may have 100 pages covering words beginning with that letter, while "X" may have only one page.

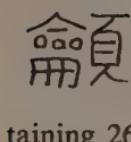
Obviously, Radicals with such meanings as "Heart," "Hand," "Water," "Fire," etc., are basic to very many other connected, associated or subsidiary words.

The numbers given are those of the Radicals in order of sequence. The three last Radicals are also illustrated as they have the largest number of strokes and are the most picturesque.

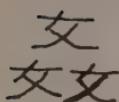
COMPOSITE CHINESE CHARACTERS



(a) The Character for "phoenix" consisting of the Radicals for "Silk" (twice), for "Bird," and for "Speech" is one of my favourites, and contains 34 strokes, almost a maximum. To my eye it is a beautiful picture.



(b) The last of the Radicals, No. 214, which has more strokes than any of the other Radicals, namely 17, added to Radical No. 185, which has nine, and means "Head," composes the Character for "Implore," containing 26 strokes.



(c) The Radical for "Woman" repeated three times contains one of the most disreputable meanings in the language, namely "Rape," "Venery," "Adultery" and in conjunction with the Character for "Chicken," even "Sodomy." Obviously one woman by herself was considered best by the creators of the Chinese language, even two being regarded as "too" many, let alone three!



(d) The loveliest and most frequently used word in the Chinese vernacular is *hao*, meaning "Good," and it is formed by the juxtaposition of the Radicals for "Man" and "Woman," or "Boy" and "Girl" together. It is my favourite spoken word in the Chinese language, and is used on all occasions.



(e) Finally, one of the most beautiful words in any language, that for "Peace," is composed of the Radical for "Roof" (or "Shelter") superimposed over that for "Woman"—appropriately, let us hope, for any home-loving husband or wife, or any bachelor, for that matter!

THE JAPANESE KATAKANA SYLLABABRY

ア	カ	サ	タ	ナ	ハ	マ	ヤ	ラ	ワ
a	ka	sa	ta	na	ha	ma	ya	ra	wa
イ	キ	シ	チ	ニ	ヒ	ミ	イ	リ	ヰ
i	ki	shi	chi	ni	hi	mi	yi	ri	(w)i
ウ	ク	ス	シ	ヌ	フ	ム	ユ	ル	ュ
u	ku	su	tsu	nu	fu	mu	yu	ru	u
エ	ケ	セ	テ	ネ	ヘ	メ	エ	レ	エ
e	ke	se	te	ne	he	me	ye	re	e
オ	コ	ソ	ト	ノ	ホ	モ	ヨ	ロ	ヲ
o	ko	so	to	no	ho	mo	yo	ro	wo

Also, the syllable ソ “n.”

ORTHOGRAPHY

‘a’ has the sound of ‘a’ in ‘father,’ ‘arm.’

‘e’ has the sound of ‘e’ in ‘they,’ ‘prey.’

‘i’ has the sound of ‘i’ in ‘pique’ or of ‘e’ in ‘mete.’

‘u’ has the sound of ‘u’ in ‘rule’ or of ‘oo’ in ‘moon.’

‘o’ has the sound of ‘o’ in ‘no,’ ‘so.’

* * *

The above have been written in for me by my wife, who is Japanese. I used to write many letters to her in this script long ago.

The Katakana, or side letters, are said to have been invented by Kibi Daishi, a man of high rank in the Court of the Emperor Kojin, who died A.D. 776. They might be described as a form of shorthand.

I conclude with my own name in this script:

ア サ レ イ ARTHUR LAY.

Hybrid Nomenclature

BY H. PIRIE-GORDON OF BUTHLAW

In *Mexico*, which was reviewed in the July number of *The Mankind Quarterly*, Mr Erico Verissimo estimates that the Mexicans are 30% Indian, 10% European and 60% Mestizos. Although these figures differ from those given in the 1950 census the reviewer draws the conclusion that the Mestizos "are likely to be more Amerind than Caucasoid."

The meaning of the word Mestizo has departed widely from its original limited application to the children of Mexican Indian mothers by fathers who were Peninsulares, or Spanish-born fathers or Criollos (Mexican-born sons of Peninsulares on both sides and their descendants of unmixed Spanish stock). In the next generation, according to the nomenclature in use during the three centuries of the colonial period in Mexico, the children of Peninsulares or Criollos and Mestizas were Cuarterones; those of Mexican Indians and Mestizas were Mestindios and those of Mestizos and Mexican Indian mothers were Cholos. Nowadays Mestizo covers, apparently, all persons of mixed ancestry, even those of original Negro, Filipino, Chinese or Japanese stock, and illustrates, as it were, the remarkably absorbent capacity of the Mexican Amerind race.

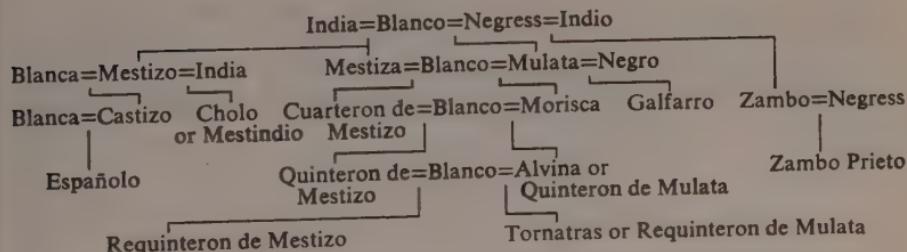
Of this absorbent capacity I saw interesting evidence in 1930 when, at Cholula in the State of Puebla, I was introduced to a schoolmaster of Negro ancestry in the male line. His grandfather, a full-blooded Negro who had lived in Oaxaca, one of the four States in which Negroes were at one time fairly numerous, had married a Mexican Indian girl, and their son, who would have been called a Lobo in Colonial times, also married a Mexican Indian, who, I was told, was a Zapotec of the same tribe as the celebrated President Benito Juarez who overthrew the Emperor Maximilian. The schoolmaster, who would have ranked as a Sambaigo in Colonial days, seemed to have inherited almost the whole of his appearance from his Zapotec mother and his father's mother, who may also have been a Zapotec as that tribe inhabits Oaxaca. Of his Negro ancestry the only visible trace was his hair.

If the physical appearance of the Cholula schoolmaster as the result of only two successive intermarriages between Negro and Amerind was at all typical it may well be that the Mexican Amerind stock is equally capable of absorbing the Caucasoid,

TABLE ILLUSTRATING THE ABSORPTION OF NEGRO BLOOD INTO THE RECOGNISED 'CASTAS' OF MEXICO IN COLONIAL TIMES



TABLE ILLUSTRATING THE ABSORPTION OF WHITE BLOOD INTO THE 'CASTAS' OF MEXICO



Negro = Black male
Negress = Black female

Indio = Amerindian male
India = Amerindian female

Blanco = White male
Blanca = White female

In cases of mixed descent the -o termination denotes a male, the -a termination a female; the -e and -on termination also indicates males.

which is being only meagrely reinforced in Mexico by the immigration and naturalization of Peninsulares from Spain and others of purely European ancestry. In this case the reviewer's conclusion is justified and there is a likelihood that in the near future the greater part of the population of Mexico may be still more Amerind than Caucasoid.

BIOGRAPHICAL NOTES

Pirie-Gordon of Buthlaw, Harry, O.B.E., D.S.C., G.C.St.J., M.A., F.S.A., F.R.G.S. Born 1883. Educated Harrow, Magdalen College, Oxford. Travelled in Greece, Turkey, Syria, Palestine 1907-10, 1923, 1925, 1926, 1929, Mexico 1930. In Foreign Department, *The Times* 1911-14, 1919-39. R.N.V.R., World War I, 1914-18. Political Mission, Palestine, 1917-19. British Commission to Baltic Provinces, 1919. World War II, N.I.D., Admiralty, 1939-54. Knight 1924, Director of Ceremonies, Venerable Order of St. John, 1942-57. Honorary Secretary Harrow Heraldry Committee since 1930. Honorary Secretary Tartan Committee, 1935. Vice-President, 1944, Highland Society of London.



DONATIONS

We wish to thank our friends who have sent us donations of varying amounts. As in most cases we have been asked to treat these as anonymous, we are not publishing the names. Needless to say, such contributions are of great assistance in meeting the high production costs of a publication of this character.

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Published twice-yearly by Indian Institute for Population Studies, Gandhinagar, Madras 20, India.

Vol. IV. No. 2, July 1960.

Taiwan's Population Problem, by Drs L. P. Chow and S. C. Hsu; Recent Official Statistics on the Population of the U.S.S.R., by Y. Mironenko; Government Bonuses for Smaller Families, by Professor Stephen Encke; A Comment on Dr Encke's Article, by Professor S. Chandrasekhar; A Note on By-Products of Economic Development Theories, by Professor Henry H. Schloss; Family Planning Training and Research Centre, by Dr (Shrimati) Sushila Gore; Reviews, Press Cuttings, etc.

The article on Taiwan's population draws attention to the rapidly accelerated rate of increase of population in the last decade. The authors show that it is likely that the women of Taiwan have an average of more than 8 children per family! In the Press Cuttings section there is an estimate that between 1975 and 1980 India's population will reach 500 million.

There is a vast amount of useful information in this review.

INTERNATIONAL JOURNAL OF COMPARATIVE SOCIOLOGY

Published by the Department of Social Anthropology, Karnatak University, Dharwar, India.

Vol. I, No. 1, March 1960.

Western Urban Man Faces Leisure, by Nels Anderson; Lineage Structure in Himalayan Society, Himalayan District, by D. N. Majumdar; Colonial Expansion and Urban Diffusion in the Americas, by Kingsley Davis; Sociology in the Rapidly Changing Society, by K. A. Busia; The Concept of "Social Change" in Sociological Theory, by Bart Landheer; Selected Problems of the Family in Urban and Rural Austria, by Leopold Rosenmayr; External and Internal Causality in Cultural Change, by Sjoerd Groenman; Is the Joint Family an Obstacle to Industrialization, by M. F. Nimkoff; Social Change and Social Class, by Peter Marris.

THE EUGENICS REVIEW

Journal of the Eugenics Society, 69 Eccleston Square, London, S.W.1. Price 5s.

Vol. LII., No. 3, October 1960.

New Life in Old Bodies, by J. F. Danielli; The Reith Lectures 1959, by C. P. Blacker, C. O. Carter and P. E. Vernon; An Estimate of the Future Population of England and Wales, by J. R. Ford and C. M. Stewart; Some Studies of British Heredity: Four Recent Books by Paul Bloomfield; Notes, Reviews, etc.

HUMAN PROBLEMS IN BRITISH CENTRAL AFRICA

Journal of the Rhodes-Livingstone Institute. Published by Manchester University Press. Price 5s.

No. 27, June 1960.

The Poverty Datum Line in Central Africa, by David G. Bettison; Fishermen of the Zambezi, by Thayer Scudder; Changes and Continuities in Africa: a review article, by C. Frantz; Myth in Modern Africa: a preliminary report on the 14th conference; Institute notes; book review.

RECHERCHES SOCIOGRAPHIQUES

Quarterly review published by the Department of Sociology, University of Laval, Quebec.

No. 1.

Pour la recherche sociographique au Canada français by Fernand Dumont and Jean-C. Falardeau; Le fonds d'emprunt municipal dans le Haut-Canada 1852-1867, by Albert Faucher; La professionalisation du travail en forêt, by Fortin and Gosselin; Les tensions psychologiques chez le bûcheron: quelques éléments d'explication, by M.-A. Tremblay; Les agglomérations urbaines et les zones métropolitaines dans le recensement canadien, by Yves Martin.

No. 2.

léon Gérin: Une introduction à la lecture de son oeuvre, by J.-C. Falardeau; Structure d'une idéologie religieuse, by Fernand Dumont; Sources de notre histoire religieuse: les archives, by Gaston Carrière; Une classification socio-économique des municipalités agricoles du Québec.

BULLETIN: JOURNAL OF THE INSTITUTE FOR THE STUDY OF THE U.S.S.R.

Vol. VII, No. 10, October 1960.

The Soviet Army and Domestic Policy; Aspects of Soviet Economic Expansion; New Tendencies in Soviet and Chinese Eastern Studies; Khrushchev's Summit Display; Other Topics from the Current Soviet Scene.

ETHNOGRAPHISCHE-ARCHAEOLOGISCHE ZEITSCHRIFT

Published by Der Humboldt-Universität zu Berlin.

No. 1, 1960.

Contents include: Über die Notwendigkeit einer Revision unserer Anschauungen von den Bewohnern des alten Mesopotamien, by Hans Grimm; Die unilaterale Heirat auf der Grundlage der Altersstruktur auf Groote Eylandt (Nordaustralien), by Frederick G. G. Rose; Zur Deutung des verschlungenen Menschenpaars auf völkerwanderungszeitlichen Zierscheiben, by Rosemarie Seyer.

PLAINS ANTHROPOLOGIST

Journal of the Plains Conference. Published at the University of Oklahoma, U.S.A.

Vol. V, May 1960.

The Enigma of Wounded Knee, by Merrill J. Mattes; The Time Concept, Perspective, and Premise in the Socio-Cultural Order of the Dakota Indians, by Vernon D. Malan and R. Clyde McCone; Factors in the Persistence of Peyote in the Northern Plains, by Wesley R. Hurt.

Vol. V, November 1960.

A Yuwipi Ceremony at Pine Ridge, by Wesley R. Hurt; The Black Partizan Site (39LM218), Big Bend Reservoir: South Dakota: A Preliminary Report, by Warren W. Caldwell; Historical Archaeology in Missouri Basin Reservoir Areas; Current Investigations.

RACE

Journal of the Institute of Race Relations. Published twice yearly by the Oxford University Press. Price 10s.

Vol. II, No. 1, November 1960.

DuBois and Africa, by Harold R. Isaacs; The Heightening of Racial Tension, by Leo Kuper; "Multi-Racialism" and Local Government in Tanganyika, by Cranford Pratt; Overseas Students at Leicester University, by J. E. T. Eldridge; The French Racial Scene: North African Immigrants in France, by Vernon Waughray; Book Reviews.

THE MANKIND QUARTERLY

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The Editors do not accept responsibility for the views expressed by individual contributors.

Book Reviews

THE PHENOMENON OF MAN

By Pierre Teilhard de Chardin, with an Introduction by Sir Julian Huxley. Collins, St James's Place, London, 1960. Pp. 320. 25s.

This remarkable book should be read by every thinking biologist. The author was a Jesuit priest who lived much of his life in China, after taking his doctorate at the Sorbonne. He made important contributions to paleontology and to the geology of China, also taking part in the great discovery of Peking Man 1929. This luminous work (and several others) was denied publication until after his death.

The Phenomenon of Man sets forth in glowing scientific language the many intellectual consequences which follow from a full acceptance of the evolutionary point of view regarding man and the universe. Its main features have been outlined in the Introduction, which concludes that its quintessence is the immense future possibilities of man provided that we increase our knowledge and our love. Of course, many authors have developed a universal evolutionary position, but the present work has some unique features. It will not be possible to set forth the whole argument here.

The author draws a fundamental contrast between the "within" and the "without." By "within" he denotes (p. 72) "the 'psychic' face of that portion of the stuff of the cosmos enclosed from the beginning of time within the narrow scope of the early earth." In short he finds (as others have done) the rudiments of psychism in the earliest organisms if not in brute matter itself. With increasing complexity of animal organisation through the ages this increasingly emerges until it reaches its summit in man. In the human population of the earth it becomes the *noosphere*, a new sphere of psychic interaction added above, as it were, to the preceding biosphere of organisms in their historical development.

The work is divided into four books: Before life came; Life; Thought, and Survival. In outlining "the tree of Life" which shows wide biological knowledge, certain words, such as orthogenesis, are used in ways unorthodox to the biologist, but this does not matter.

One of the themes of book three is the hominization of the individual and human species, another is the development of the noosphere through the interactions of various types of thought and thinkers.

In book four, on Survival, Père Teilhard extrapolates into the future and pictures a convergence to a point which he calls Omega, the beginning having been at the Alpha of elementary particiles and their energies. Emergence in the course of cosmic evolution has happened at many levels. Omega is the last emergence towards "a divine focus of mind," but it is outside all series, since it closes as well as crowns the previous syntheses. The argument of this section can only be understood by a careful perusal, which is recommended to the reader.

R. R. G.

OUTLINE OF HUMAN GENETICS

By L. S. Penrose. Heinemann, London, 1960. Pp. 146. 12s 6d.

In this little book by the Galton Professor of Eugenics at University College, London, who is well known for his statistical contributions to human genetics, every statement is made in the simplest terms and no mathematics is introduced which is more complicated than the Mendelian 3:1 ratio. It is therefore meant for the general reader with no previous knowledge of the subject. Yet the author succeeds in including recent developments, especially the new field of abnormal human types with various aberrant chromosome numbers resulting from non-disjunction. Here we find the Kleinfelter syndrome with 47 chromosomes in the male (including XXY in the male) instead of the normal 46. Also the Turner syndrome with 45 chromosomes (no Y), the so-called Mongol with triplication of one of the smallest chromosomes, and super-females with three X-chromosomes. Here has quickly developed in man a situation in some respects parallel to that discovered in plants fifty years ago.

In earlier chapters are considered such topics as genic effects, genes and populations, linkage; environment and heredity; eugenics and dysgenics.

The author has little to say in favour of eugenics. He admits that races isolated for "many thousands of years" have become adapted by selective forces to very different climates, yet he regards mixture of these primary races or sub-species as a "favourable development."

R. R. G.

ANTHROPOLOGIA HELVETIA II: DIE ANTHROPOLOGIE DER KANTONE UND DER NATURLICHEN LANDSCHAFTEN.

By Otto Schlaginhaufen. *Arch. J. Klaus-Stiftung*, Ergänzungsband zu Band XXXIV, 1959. Vol. A, pp. 708; Vol. B, 60 maps.

This is a detailed anthropometric study of the Swiss population, including extensive measurements of each individual and also records of eye and hair colour and nasal profile. It is an excellent example of what can be done in recording the characters of a whole population. It will serve as a mine of information for all those who may wish to study the racial composition of different parts of the country, with their distinct but frequently mixed racial types.

R. R. G.

READINGS ON RACE

Edited by Stanley M. Garn. Blackwell, Oxford, 1960. Pp. 281. 54s.

This rather miscellaneous collection of papers on race leads to no particular point of view. Among the lucubrations of the editor is the statement (p. 31) that Darwin "toyed with the possibility that the differences between human races were due to evolution, and then recoiled from the obvious." I feel highly honoured by being also included with Darwin as one who does not believe in the evolution of races! It would be a pity to allow such nonsense to pass as anthropology. He pushes his conception of racial adaptations to such extreme statements (p. 35) as "It is likely that the recessive carrier of Morquio's syndrome, the genetic diabetic, and the hypertensive and the coronary-prone individual all possess certain unique advantages over their fellows."!

Most of the papers here reprinted are free from the speculations of the Editor. In the section on climate and race D. F. Roberts carefully discusses the question: Does mean body weight vary with mean annual temperature? He finds that Bergmann's rule, if based on stature, does not apply to man, but if based on weight it does. Charles G. Wilbur, after his experiences in the Arctic, draws the sweeping conclusion that the rules of Allen and Bergmann are invalid, not only in their application to man, but find little support as casual agents in homeothermal animals. However, the largest of all bears and the largest moose are found in Alaska, and the Manchurian tiger is conspicuously larger than the Bengal tiger, so a size relationship to temperature would appear to have some basis in animals.

Other sections of this book are concerned respectively with disease selection and race, genetic drift, human polymorphism, admixture of races and finally experimental studies on the effects of racial exposure to cold.

R. R. G.

THE EVOLUTION OF LIVING THINGS

By H. Graham Cannon, F.R.S. Manchester University Press, 1958.
Pp. 180. 12s 6d.

This book is written in simple language for the intelligent layman. Its purpose, as stated in the preface, is to show that "the orthodox theory of genetics falls far short of explaining . . . evolution." The first chapter contains a brief but well written history of ideas about evolution, beginning with the Greek philosophers.

In the next chapter, on Darwinism, the author finds (p. 39) that all wild organisms at some point in their life are at starvation point for food or for some other essential for their life. Quoting Darwin's statement that "Unless profitable variations do occur, natural selection can do nothing," Cannon pinpoints the conclusion that as conditions of life change, "so natural selection would proceed to pick out for survival just those forms which had appeared by chance and which were the most suited for the changed conditions." He later attacks evolution-by-chance, but the physicists tell us that the break-down of a particular radium atom is equally chancy and unpredictable, except *en masse*.

Following a chapter on the elements of Mendelism we have the most original part of the book, dealing with Lamarckism. The four laws of Lamarck are discussed, as developed in his various works. Emphasis is placed on the French word *besoin* as meaning an inner *need* rather than a *want* or desire, but even in English these words are frequently interchanged, as the author himself does (p. 65). He does succeed in showing, however, that Lamarck's views have frequently been misunderstood and misrepresented. Lamarck had a definite idea of natural selection, animals which fail to *respond* to changed environment being eliminated. Lamarck's fourth law alone implies the inheritance of acquired characters, but according to his second law, a change in the surroundings of an animal "produces a reaction of the animal in such a way that if new organs are needed they begin to appear." This involves a philosophical position as difficult as that based on chance.

We need not follow the later ramifications of the argument but may point out that the references to bacteria betray a lack of acquaintance with the great modern developments in this field.

R. R. G.

LAMARCK AND MODERN GENETICS

By H. Graham Cannon, F.R.S. Manchester University Press, 1959.
Pp. 152. 12s 6d.

This little book is a companion to the previous one. It is mainly devoted to an exposition of Lamarck's views, particularly in relation to Neo-Mendelism. After a short account of his remarkable early military experiences and his meeting with Rousseau, a chapter is devoted to Lamarck's "Eulogy" by Cuvier, a scandalous denigration which ruined Lamarck's reputation in his own country and had repercussions on Darwin's views. "What Lamarck really said" is here set forth in relation to the variable views of Darwin on the inheritance of acquired characters.

In the discussion of melanism in moths, Cannon assumes that the mutation results from magnesium on the bark of trees in smoky areas, but the work of Ford and Kettlewell indicates that melanic mutations have been appearing spontaneously for millenia but are quickly eaten by birds in non-smoky areas.

In the many criticisms of Neo-Mendelism which follow, the author engages in lively discussions of such matters as the neck of the giraffe, the femur of the whale, flightless birds and the lens of the eye. Having shown that "orthodox genetics" does not explain these things, which he regards as under organismal control, he in effect limits Mendelism to non-specific characters. When the shelled egg appeared, the white of the egg, the shell and the egg-opener on the embryonic bird's beak are regarded as entirely new structures. "They were wanted and they therefore appeared" (p. 101) is hardly a scientific explanation, but it is in accord with Lamarck's conceptions.

Some day it will be realised that many different factors and principles are involved in the origin of different species, but this is not the place to discuss them.

R. R. G.

INTRODUCTION TO QUANTITATIVE GENETICS

By D. S. Falconer. Oliver & Boyd, Edinburgh and London, 1960.
Pp. 365. 35s net.

The field of quantitative genetics, although of fundamental importance in connection with evolution theory and practical breeding of plants and animals, has been slower in its development than Mendelian or medical genetics. This is because it is usually impossible to isolate single genes having quantitative effects. Rather, they must be dealt with in groups or series, which has encouraged the development of population genetics.

The present volume is an admirable treatment of this subject, designed for those whose aims are primarily biological rather than mathematical and who wish to use statistical approaches to biological studies of variation. The book throughout is a combination of biological and statistical reasoning which cannot fail to appeal to those who are not primarily mathematicians. Its twenty chapters are devoted essentially to population problems, beginning with the Hardy-Weinberg equilibrium and going on to the effects of migration, mutation and selection, both natural and artificial (in domestic animals and plants and laboratory experiments).

The first five chapters are devoted mainly to populations. Later chapters are concerned with continuous variation, variance and heritability. Three chapters follow on selection, and three more on inbreeding and

crossbreeding. Then are considered the questions of scale, threshold characters and correlated characters, with a final more theoretical consideration of metric characters under natural selection.

Throughout the work examples are given of recent laboratory experiments, especially with mice, *Drosophila* and poultry. The bearing on human population problems is also frequently pointed out. In the analysis of the more intricate problems possibly undue emphasis is laid on dominance, but this is a matter of opinion. Dominance, when present, is clearly a complicating factor.

This well-written and well-bound book finishes with a glossary of symbols, a useful list of references and a subject index. It will no doubt be widely used.

R. R. G.

IL METICCIATO DI GUERRA

By Luigi Gedda, Angelo Serio and Adriana Mercuri, with foreword by R. Ruggles Gates. Istituto Gregorio Mendel, Rome, 1960. Pp. 398. 84 figures (several in colour), 142 tables.

Several studies have been made of war children produced in occupied countries, especially Germany and Japan, following the two world wars.

The present extensive work records with great care and detail an account of the mulatto children produced in Italy by coloured troops during the occupation. Full anthropometric, physiological and psychological measurements were made of 44 Italian war children (34 male, 10 female) of ages 8 to 12 years which were cared for in two institutions near Rome. A map shows the wide distribution of similar cases in Central and Southern Italy. The fathers were known in only seven of the 44 cases. They are diagnosed as Negroid in 35 children (27 males, 8 females), Indian in six others and probably Polynesian in two and Amerindian in one.

The measurements of these children include height, weight, chest circumference, span, hand and foot length, head measurements, bizygomatic breadth, total face height, nasal and ear measurements and red cell diameter. In addition, records were made of skin, eye and hair colour and shape of nose, lips and ears. The essentially medical examination included X-rays of skull, chest and hands, blood conditions, electroencephalographic records, basal metabolism, glycemia and taste sensitivity as well as the ABO, MN, P and Rh blood groups. In some cases the mother also bore one or more children by an Italian father. These should serve as a later basis for comparison. In addition a study was made of DZ twin girls with a white father and an Abyssinian mother, also the white half-sister of a female war mulatto.

In these F_1 crosses woolly hair, everted lips and flat nose are regarded as dominant characters. Two mulattoes with blonde hair are considered as cases of "reversed dominance," but a simpler explanation is that the father was heterozygous for blonde hair. An interesting distinction is drawn between *morphologic* and *auxologic* heterosis, the former producing higher values for various measurements than either parent race, while the latter consists in an acceleration of early growth rate. Both phenomena are found in certain cases.

This work will serve as a model for future studies of war children. It is of interest to everyone concerned with race.

R. R. G.

GENETICS AND TWENTIETH CENTURY DARWINISM

Cold Spring Harbor Symposia on Quantitative Biology. Vol. XXIV, 1959. Cold Spring Harbor, New York. Pp. 321.

The present volume in this well known series of annual conferences is devoted mainly to an analysis of modern Darwinism in genetical terms. It was attended by nearly 200 biologists, 30 of them from abroad. The 24 contributions published, with discussion, cover a very wide field of evolutionary biology. Attention must be confined mainly to those having an anthropological bearing. Eight of the papers are purely botanical, dealing with such topics as mutants in certain genera, natural selection of ecotypes, race formation in cultivated plants, polyploidy, speciation, the influence of genetic systems on geographical distribution, and the great variety of early (Devonian) vascular land plants.

Zoological papers are concerned with selection of quantitative and polygenic systems, polymorphism in snails, speciation in *Drosophila* and in mosquitoes, and mimicry. Paleontology is represented by papers of Kurten on rates of evolution in fossil mammals and Simpson on supraspecific taxa. The most original contribution is probably that of Dobzhansky on the evolution of genes, to which is appended a translation of Chetverikov's (1926) early paper on natural populations.

Of more immediate anthropological interest is Mourant's account of the blood groups and natural selection, in which he refers also to thalassemia and the sickle cell gene as well as the mutant haemoglobins and the blood groups of various animals. There is also reference to the relation of the ABO to disease, and to the fact that among those who suffer from adenomatous goitre there is an excess of non-tasters of P.T.C. and of males. Barnicot's discussion of climatic factors in human evolution is mainly physiological and is concerned with such problems as the relation of skin colour to solar radiation and experimental work on cold acclimatization.

Coon's contribution on race and ecology in man is filled with close observations of the physiology and morphology of racial characters. In relation to density of population he refers to the recent conclusion that hereditary susceptibility to socio-cultural stress is associated with low reproduction rates. Heberer's full-length discussion of the fossil record of man and his relatives includes *Oreopithecus* and *Giganththropus* as well as the Australopithecines. He finds three main ancestral lines, (1) Pithecanthropus-Sinanthropus, (2) the paleoanthropine sequence (including Neandertal), (3) the *Homo sapiens* line, but various forms cannot be fitted into these categories.

Hunt discusses the continuing evolution of man, and Rensch deals with the evolutionary trends of brains and sense organs, human and animal. He concludes that larger vertebrates have a greater learning capacity and a longer capability of retaining visual tasks (memory) than related smaller species or races with absolutely smaller brain. This condition has a selection value.

R. R. G.

EL ANTIGENO DEL SISTEMA SANGUINEO DIEGO

By M. Layrisse and J. Wilbert. La Fundación Creole & La Fundación Eugenio Mendoza, Caracas, Venezuela, 1960. Pp. 160.

The Diego blood group system has proved to be of great assistance as it is confined to people who are at least partly of Mongolian or

Amerindian descent. As a mutation it must have occurred very early in the Mongolian race. The authors trace its spread, for example, into south-eastern Asia and among Amerindians. In the latter, small numbers of tests indicate about 3% Diego in Apache, 5% in Blackfoot and 11% in Chippewa and Cree. In Central and South American tribes the incidence is higher—15 to 45%. Its absence in 682 Eskimos is significant as indicating that the Diego gene did not spread to the Far North, although the Eskimos have the B blood group and also such Mongolian features as the eyefold. The absence of Diego from the Australian aborigines, Papuans, Indonesians and Polynesians as well as Negroes of African origin, Bushmen and Hottentots is also significant.

In this work all the nine blood group systems are considered in their racial relations, with many interesting results. With increasing evidence the relative ages of many blood group genes will become known.

R. R. G.

ADVENTURES WITH THE MISSING LINK

By Raymond A. Dart with Dennis Craig, with foreword by Abbe Breuil. Hamish Hamilton Ltd., 90 Russell Street, London, W.C.1, 1960. Pp. 250. 25s.

This book is one of the sagas of human evolution. The young early Pleistocene skull which came into Dart's hands in 1924, less than two years after his appointment as Professor of Anatomy at Witwatersrand University in Johannesburg and which he named *Australopithecus*, has continued to gain in significance as ancestral to humankind. Skeptically received at first by anthropologists as the skull of a baboon or an ape, Dart's account of the development of his ideas, as the matrix was gradually removed from it, is more exciting than any detective story and allows the reader to share the excitements that accompany any important discovery.

Later discoveries of several adult skulls at different South African localities, especially by Dart and Broom, led to recognition of the *Australopithecinae* as a group of man-apes who walked upright, having an enlarged brain, a retracted chin and an essentially humanoid dentition without protruding canines.

Another humanoid similarity which appears to have been generally overlooked is in the nasal bones. In a study of the origin of the high leptorrhine nose in some modern races of man I pointed out (*Zeits. f. Morph. Anthropol.* Vol. 47, p. 278, 1956) after examining Dart's original skull, that "the nasal bones are seen to be remarkably human in structure and position, entirely unlike any of the living anthropoids." Photographs in that paper, of the crania of the three anthropoids, show that they differ greatly from each other and still more from man, in the nasal area.

Everyone interested in man will want to read this very human book. Having taken a leading part in the establishment of this group of missing links on the basis of their physical characters, Dart has gone on to show, after much opposition, that they used the long bones of animals to kill baboons by cracking their skulls. His osteodontokeratic culture, using bones, teeth and horn, when only the crudest stone tools began to be shaped by them, has persisted in some cases down to the present time. Leakey has recently confirmed its occurrence in *Australopithecines* discovered in Tanganyika. Thus a remarkable new chapter is added to archaeology.

With increasing evidence, opinion has gradually shifted to regarding Australopithecines as definitely in the direct ancestry of man. As tool-makers we must regard them as human. The real "missing link" has been found at last; but to place them in the genus *Homo*, as has been suggested, would be to overlook the long road through which they must have passed via *Pithecanthropus* to modern man.

R. R. G.

AN ESKIMO VILLAGE IN THE MODERN WORLD

By Charles Campbell Hughes, with the collaboration of Jane M. Hughes. Cornell University Press, New York; Oxford University Press, London, 1960. Pp. 419, 21 figures, 2 maps. Price 54s.

This is a very thorough account of the village of Gambel (Sivokak), on St Lawrence Island which lies between Siberia and Alaska. The inhabitants are Eskimos with distinctly Mongoloid-like features. It gives an account of the gradual development of contact with the Western world, and the considerable changes brought about by the establishment of American air and army units on the island.

The subjects dealt with are: Birth, Death and the Community; Morbidity and Mortality; Warmth and Well-being; the Texture of Social Life, which includes kinship systems, kinship groups and changes in these, and the Inter-relation of School and Church. It also deals with the xenophilic attitudes of the people, and ends with an appendix concerning methods used for health study, and a glossary of frequently used Eskimo terms.

There are genealogical tables to show kinship relationships. Graphs and other charts are used to give an analysis of income and economic condition of the people. All round, this is a very useful and comprehensive analysis of modern Eskimo life.

SOCIAL AND ECONOMIC CHANGE AMONG THE NORTHERN OJIBWA

By R. W. Dunning. Toronto University Press; Oxford University Press, London, 1960. Pp. 217, numerous plates and line drawings. Price 44s.

This is a study based on detailed ethnographic determination of the Pekangekun community, which consists of about 350 individuals and which is located in North Western Ontario. The author learnt the language, and was able to communicate with these Indians as a consequence. Part of the book consists of detailed studies of Pekangekun and analysing the ecological relationship between the size and spatial concentration of the group and its resources. The remainder of the book deals with kinship and marriage. He shows that, owing to economic well-being, the importance of kinship increases rather than diminishes, and furthermore, that there has been produced a virtual endogamy.

The contents cover: The Northern Ojibwa; History of External Influences on Pekangekun; Demography and Residence Patterns; Kinship; Marriage; and The Changing Society.

The author is on the staff of the University of Manitoba, and the book proves him to be a competent social anthropologist.

DIE SPONTANE UND INDUZIERTE MUTATIONS RATE BEIM VERSUCHSTIER UND BEIM MENSCHEN.

Edited by the Bundesminister für Atomkernenergie und Wasserwirtschaft. Gersach and Sohn Verlag, Munich, 1960. Pp. 240. Price 8 D.M.

This symposium on mutation rates, both spontaneous and induced, in animals and man, was held at Barsinghausen, Hanover, for three days in February-March 1959. The papers, with discussion, are published as Strahlenschutz Heft 17, concerned with protection against radiation. Twelve Germans and seven from other countries took part in the discussions.

Professor Ulrich (Zurich) discusses the genetic effects of radiation on *Drosophila* zygotes, and also the difficulties in the determination of induced mutation rates. The contribution of Professor Lüning (Stockholm) is on the recovery of recessive lethal mutations in the sperm of *Drosophila*, including both new alleles and structural rearrangements in the chromosomes. His results indicate that when recessive lethals are induced in a nitrogen atmosphere, subsequent irradiation in air may block their recovery if given within half an hour, but not if given 40 or more minutes later. This agrees with the results as regards chromosome breaks.

Professor Buzzati-Traverso (Pavia) describes the production of mutations in polygene systems by X-rays. He finds that ionizing rays produce in *Drosophila* greater variability in characters controlled by polygenic systems. Professor Lüning also describes experiments of Professor Bonnier on the effect of radiation on *Drosophila* populations, indicating that an out-bred strain suffered less from irradiation than a homozygous strain.

Dr T. C. Carter (Harwell) considers the significance of mutation experiments with mice in relation to the estimation of genetic radiation-effects in man. Professor Grüneberg (London) considers mouse genetics as a bridge to conditions in man. The mouse is considered the most susceptible of mammals to radiation, then men; rats and guinea-pigs being least susceptible.

Buzzati-Traverso describes a plan for determining human mutation rates; von Verschuur (Münster) lists many human mutation rates; Dr Wendt (Marburg) explains his methods for obtaining all cases of Huntington's chorea in an area, and Professor W. Lehmann (Kiel) collects all human mutations. Dr Vogel (Berlin-Dahlem) discusses the increase in human mutation rates and Dr Lejeune (Paris) those produced by ionizing radiations. Other important results are discussed in an appendix.

R. R. G.

ANCIENT AND MODERN MAN IN SOUTH-WESTERN ASIA

By Henry Field. University of Miami Press, Coral Gables, Florida, 1956. Pp. 342, 156 tables, 24 maps.

This is a first class survey and exposition of the racial types and their occurrences, and associated cultures, in South-Western Asia. The work summarises that of all the workers in this geographical area, and gives extensive and very complete anthropometric tables.

There is a very well-written and useful summary of early man in Eurasia, under the heading of The Nursery of Modern Man. Its conclusions that there are elements of Mediterranean, Nordic and Alpine

throughout the region of South-western Asia, and that blondism is found among the Kurds, Assyrians and in the Caucasus, as is evidenced by the occurrence of fair hair and blue eyes, are all reconcilable with the known facts of ethnological history. The writer quite properly draws attention to the Negroid infiltrations, as well as to older strains of Veddoid type, occurring among the Arabic peoples in certain places, where they are often mixed with the Caucasoid strains which form the basis of the type over large areas.

The anthropometric data is provided by Winifred Smeaton Thomas, and C. U. Ariens Kappers. There is also a very exhaustive list of archaeological sites in the Arabian peninsula and adjoining areas.

This is a work well done, with valuable and satisfying conclusions, based upon sound, scientific reasoning.

R. G. of G.

SOCIAL CHANGE IN TIKOPIA: RE-STUDY OF A POLYNESIAN COMMUNITY AFTER A GENERATION

By Raymond Firth. George Allen & Unwin, London, 1959.
Pp. 360, 8 plates, and several maps, charts, tables and genealogies.
Price 45s.

This book, as its title implies, discusses the social changes imposed upon a Polynesian community by the pressures of famine and Western civilization which have occurred over a period of 25 years.

It is a useful work which may enable one to gauge the impact of western influence on a native people and assess to some degree what is likely to break up the foundations upon which their life is based. The author concludes, however, that it is impossible for any social analysis to predict more than in a very tentative way the future history of a society.

THE NEGRO IN AMERICAN CIVILIZATION

By Nathaniel Weyl. Public Affairs Press, Washington, D. C., 1960.
Pp. 360. Price \$6.00.

The publication of this book represents a remarkable achievement when one considers the present posture of the American apparatus for the moulding of opinion. Heretofore, it has been extremely difficult to contravene effectively what has been termed "UNESCO Anthropology." Although the author is not by profession an anthropologist or social scientist, he has done graduate work in economics, philosophy and history.

In his Preface, Weyl states that, although he had planned merely to trace the changing status of the American Negro, he was led by his research through ever-widening areas to the eventual discovery that much of the "objective findings of social scientists could more accurately be characterized as rationalizations and propaganda wearing academic cap and gown." Others have made the same discovery, albeit with ineffective protest. Weyl's sense of displeasure at the rape of his right (this right being not included in the U.N. Covenants) to honest scholarship has resulted in a work of 321 pages. The scope of Weyl's research is indicated by 30 pages of citations to bibliography and references.

Weyl is not a Nordicist. He specifically assesses superiority and inferiority as being "always relative to the frame of reference." His

frame is American urbanized society. Weyl concludes that the mass of the Negro is not qualified, and cannot hope to be qualified, to become a productive and integral part of such a society.

All, except the blind, in the United States now admit the existing gulf between the races, on the average, with respect to crime rates, scholastic attainment, and general aptitude for city life. The apologia has been composed of words such as "culturally deprived," "underprivileged," and assorted other semantic devices, resting upon pseudo-ethics and the rankest environmentalism. To all of this Weyl gives a resounding answer. He refuses to divorce ideas from their consequences; he terms egalitarian ethics as being *a priori* irrelevant to the discussion; he discards environmentalist excess.

Weyl's attack is formidable. He demonstrates that the widespread appeals to Thomas Jefferson's Declaration of Independence as a "testimonial" propaganda device are without foundation, Jefferson having believed in a natural "aristoi" for a governing class, filled by the unshackling of social mobility and by selective education. One may compare "John Locke and the Spirit of '76," *Political Science Quarterly*, 1958, Vol. LXXIII, p. 421, "It is an unintentional paradox that the men of 1776 provided a rhetoric that would be abused by later demagogues whose ideas would have been anathema to the signers" (of the Declaration of Independence).

Following his restoration of sanity to what the founders of The American Republic really thought about Negro integration, Weyl methodically refutes the position of professors typical of the egalitarian school, such as Montagu, Klineberg, and Kluckholm; Gunnar Myrdal's book, *The American Dilemma*, is shown to be inaccurate and naive in several important parts. The reliance by the Supreme Court upon Myrdal in the 1954 school integration decision is examined and found wanting. The Justices were poor psychologists. They failed to take into account numerous factors involving not only the welfare of the white children, but also the rejection complex of those submarginal Negro children who would be far happier in their own schools. Weyl sees correctly that the decision, indeed the whole movement, involves a bigger game played by various men for reasons having nothing to do, *per se*, with helping the American Negro. He concludes that the attempt forcefully to integrate the Negro into white society has been and will continue to be productive of monumental unhappiness to both blacks and whites. It has already created, and will in larger measure in the future create, vast reservoirs of dark proletarians, a prey to demagogues and a surcharge upon the productive members of such societies. The last chapters upon the death of American cities are vivid and accurate portrayals of facts. They make unpleasant reading.

Weyl bases his argument upon a wide range of data, relying heavily upon J. C. Carothers' *The African Mind in Health and Disease*, the findings of Vint with regard to the supragranular layer in the brain cortex, and certain studies by Geber, to mention a part. This reviewer notes that Carothers gave an environmental and cultural explanation to wide differences which he found between the African and the European. Weyl takes much of the same data and arrives at an opposite conclusion, which undoubtedly is based, in part at least, upon Weyl's refusal to subject the same data to the severe criticism reflected in Carothers' work, a criticism which consistently demands completely culture-free tests (an obvious impossibility), before laying any definitive conclusions thereon. Verdicts arrived at in such fashion do not equate with positives. In fact, Kline-

berg and Myrdal, both relied upon by Carothers, draw conclusions favourable to the Negro from data the empirical basis for which is of far less weight than the contrary data from which they will not draw even a tentative assessment of probability. This is a standardized egalitarian device. It is well known to Weyl.

Weyl's solution is that the cult of equality be cast out. He suggests that emphasis be placed upon individual liberty. Under this concept, Weyl says that the Negro has the "right to be judged as a human being, rather than as a representative of his race." (P. 320.) This suggestion, in the opinion of this reviewer, is an *ignis-fatuus*. In 1948, the Supreme Court outlawed enforcement of those covenants placing racial restrictions upon land occupancy. These covenants were not aimed at merely excluding several Negroes of worth from a neighbourhood. The thought of the signatories was that the same door allowed access to burglars as well as to honest men. American experience has proven this fear to have been correct. Social judgments as to the particular are always drawn from probabilities and classifications. For this reason, people avoid stray dogs.

One may postulate that without classification upon probabilities no modern society could effectively function. In classic lines Burke said that experience was the wisdom of unlettered men, and "We are afraid to put men to live and trade each on his own private stock of reason; because we suspect that this stock in each man is small, and that the individuals would do better to avail themselves of the general bank and capital of nations and of ages. . . . prejudice, with its reason, has a motive to give action to that reason and an affection which will give it permanence."

Weyl's comment upon the widely-held Southern fear that amalgamation will cause a decline in civilization—"We know of no instance, however, in which this casual relationship would be seriously asserted by any competent historian"—is worthy of comment. It is true that genes imparting superior intelligence would manifest themselves in the blended race. But, the question is whether the weight of the mass allowed into the civilization will be so great as to prevent the flowering and social manifestation of that intelligence as translated into terms of its actual ability to be utilized for the advancement of the society. One need not qualify Gobineau or Gibbon as "competent" in order to derive this lesson. What of the effect of differential survival rates upon such a mixed society. Weyl himself upon page 4 closely approaches Gobinism without recognition as he relates the fall of Greece and Rome. In any event, we have accounts of what Demosthenes, an eyewitness to the collapse of Hellas, thought of the matter.

In this book appeared no reference to the works of Sir Arthur Keith, nor was mention made of the impact upon Europeanized nations of the expansion of European values to a universal scope. Has the equality concept any utility outside of the frame which gave rise to it? Of what value is a 1789 which in the 1960's spells the ruin of nations? Luis Diez del Corral in his book, *The Rape of Europe* (Allen & Unwin, London), concluded that the universalization of the European ideal was the instrument of the "expropriation" (sic) of Europe. These are matters not pursued by Weyl and which will bear a needed examination in the years to follow.

Harsher conclusions can be drawn from Weyl's book than the author chose to make. Suffice it to say, Weyl's demolition of the basic premise of liberal universalism, like the Macbeth spot, will not wash out easily.

JOHN BROCKENBROUGH FOX

THE WORLD'S EXPLODING POPULATION

By Karl Sax. Beacon Press, Boston, 1960. Pp. 202, 10 figures, 13 tables. Price \$1.75.

This is a new edition of a book first written in 1951, when the world was hardly at all awake to the threats of a situation of which it is even now all too unconscious. It has been revised in relation to the new data that have come up during the past decade, and in the short compass of 200 pages it gives a very readable account of the general situation. It includes a number of useful tables and maps.

The book falls into three parts. The first starts with Malthus, and then goes on to discuss the diets of the various parts of the world, and the hunger which has always been the central fact of human life, though we are far too prone to forget this. Nor do we often remember that the situation is not getting better, because the great increases in food production are being offset by even more rapid increases in numbers.

Then comes a discussion of the so-called Demographic Transition, and this is indeed the central feature of the book. Demographers classify the world's populations into three groups. The first have high birth-rates balanced by high death-rates, and this was the normal condition that prevailed all over the world until recent times. Next comes the second group in which owing to improving conditions, largely helped by the introduction of modern hygiene, the death-rate goes down while the birth-rate stays up, with a consequent rapid increase in numbers. Later comes the third group in which the birth-rate goes down too.

This is of course an over-simplified description of the general changes in ways of life that have been going on during the past two centuries. Western Europe first started the Scientific Revolution in the 18th century, and it really got going strongly during the 19th. These peoples began the Revolution with the great advantage of the vast uninhabited areas of the New World that they could expand into, and through this, and through the new ways of life they were discovering, life became easier and the death-rates went down. The result was an expansion roughly fourfold in a century among these peoples. As the populations gradually switched from agriculture to industry, city life became more predominant, and for a number of reasons that are not yet fully all understood, the crowding gradually led to a reduction of the birth-rate to something more manageable. Seeing the great advantages of the new way of life the rest of the world is now aspiring to copy the transition, but their problem is much more formidable because there are now no great spaces for them to expand into. As Sax emphasises, they simply cannot afford the two centuries that we took, because in the process their numbers would increase to a quite fantastic extent. Can their transition be achieved in say two generations?

The book regards the transition from a rather strongly American point of view, and seems to take it for granted that the proper aim of the world is for all to become as alike the United States as can be. This means having only about ten per cent. of its people engaged in agriculture, instead of practically all, while the rest live in comfort in towns engaged in industry, though it is not evident for how long they would be able to go on making things which their fellows could afford to buy. There is one important fact hardly touched on in the book, which disturbs confidence in the virtue of the transition. This is that the United States itself, which claims to have completed it, is still increasing in numbers at as fast a rate as India where the process has barely begun. Is it in

fact the transition that will ultimately stop the increase, or may it not prove to be the overcrowding of the world, from which the United States is not yet suffering?

In the second part of the book Sax discusses the resources of the earth that will be required to provide for the inevitable great increase of numbers. He brings out clearly the threats we are faced with. For example: "to provide an *adequate* diet within the next decade for the expanding world population would involve literally doubling the present rate of world food production." There is also a discussion of the world's equipment of minerals, and some of the facts are quite startling. As an example take copper. The world's known resources of this metal will last only 45 years at present rates of consumption, but if instead we ask how long they would last if the demographic transition were complete, the answer is given by assuming that all the world would be using copper at the present American rate, and the result is five years! Even if there are new discoveries, say multiplying the supply by ten, the consequence is not very encouraging. There is also an interesting discussion of the prospects for mechanical energy. The new physics holds out great prospects for this, but it is hard to believe that a revolution of engineering practice on a world-wide scale can become effective within the few decades which are essential if it is to beat the explosive increase of numbers.

Future prospects are examined in the last part of the book, and in particular the question is considered as to what hope we have of avoiding the worst consequences of the explosion. The most obvious thing to think of is birth-control. Sax emphasizes the practical necessity for the provision of cheap contraceptives to be used on a world-wide scale. They do not exist at present, but it looks as if it would not be a very severe problem for our biologists to solve. This, however, is the easy part of the problem, and he discusses the more formidable question how religious and social prohibitions are to be overcome, if the results are to be effective, and whether compulsive control would be necessary. It would seem that only if success is achieved in all these attempts is there much prospect of our escaping from a reversion to the traditional limitation of numbers by famine, pestilence and massacre.

The book naturally does not make cheerful reading, but it is to be strongly recommended as giving a description of the threats to world conditions which are all too likely to come within the lifetimes of many already living.

CHARLES DARWIN.

AN INTRODUCTION TO SOCIAL ANTHROPOLOGY

By D. N. Majumdar and T. N. Madan. Asia Publishing House, London, 1960. Pp. 304. Price 31s 6d.

Since publishing this book it is to be regretted that Professor D. N. Majumdar, Professor of Anthropology at the University of Lucknow, has died. The book covers the whole field of subjects in social anthropology. Of most interest to many will be the remarks concerning race and caste, where the writers review the long list of distinguished names of persons who have held that caste rests upon a racial foundation, and they admit the racial factor in the formation of the caste structure. They suggest, however, that Chappel and Coon have misunderstood the dynamics of caste structure.

It is by no means an unimportant book and it is useful in that it deals with Indian (and so Aryan) aspects of social anthropology.

R. G.

THE CHILDREN OF LILITH

By Guy Piazzini. Translated from the French by Peter Green. Hodder & Stoughton, London, 1960. Pp. 192. Price 21s.

This book deals with the survival of giant lizards of quite prehistoric character in the East Indies, and then with the Dyak people of Borneo. There are some unfortunate references which reflect propaganda rather than a scientific knowledge of the situation, in so far as, for instance, the foundation of Singapore is attributed to Chinese traders, and not to Raffles, without whom it would not have been possible for the Chinese to settle in that island, and also in the condemnation of the Dutch, with the suggestion that the poverty to be found in the former Dutch East Indies is in some way connected with them. Anyone who knows the East, with greater insight than that of a touristic archaeological and anthropological interest, will realise that these statements are far from the mark. However, there is much of interest in the book, apart from these points of minor criticism. Consequently, it is useful as giving an up-to-date account of these people.

THE ORIGINS OF LOVE AND HATE

By Ian D. Suttie. Penguin Books, Harmondsworth, Middlesex, 1960. Pp. 222. Price 3s 6d.

This is a comprehensive and constructive criticism of Freudian psychology in its social application. This work offers a biological and psychological conception of infancy, sociability, love and interest. Human and animal behaviour are considered, and the racial antipathies in man, as well as the growth and decay of civilization.

The author makes a clear distinction between the mental characters and psychology of matriarchal and patriarchal forms of religion. In the former, father-gods do not exercise any considerable moral force, and such religions easily develop into polytheism. Obedience to taboos, to authority, a cultivation of a sense of unworthiness, and the practice of asceticism are all seen as stemming from the Father-God complex. Having regard to the clear racial alignment, at varying periods, of matriarchy and patriarchy in society and religion, this book is an evident help to a deeper study of the nature of man and its bearing upon racial relationships.

OUR DEVELOPING WORLD

By L. Dudley Stamp. Faber & Faber, London, 1960. Pp. 195, 42 illustrations, including many maps. Price 21s.

This book is written against a background of ever increasing population pressure on land and land resources at a time when knowledge and practice of death control have overtaken knowledge and practice of birth control. Dr Dudley Stamp says that if present trends continue, standing room only is within measurable distance on this earth. At the moment, technical progress, as we all know, is holding its own in increasing the supplies of food. There is a greater intensity of land use in many parts of the world. Because this greater intensity of land use is occurring in certain regions and not others, it is obvious that inequalities between groups of human beings are being increased rather than decreased by modern conditions.

HUMAN PROBLEMS OF KARIBA. VOL. I: THE SOCIAL ORGANIZATION OF THE GWEMBE TONGA

By Elizabeth Colson. Published on behalf of the Rhodes-Livingstone Institute, Northern Rhodesia, by Manchester University Press, 1960. Pp. 234, 7 plates, 11 tables and a large folding map. Price 35s.

This tribe, the Gwembe, or Valley Tonga, are a people who, until recently, were able to avoid any large contact with the modern developments in Africa, but have been displaced by the development of the Kariba Dam in Rhodesia. This is a study of their customs before they were uprooted. There is much valuable information here in connection with land tenure, agriculture, and African beliefs, and the book is written by a competent anthropologist, who was formerly director of the Rhodes-Livingstone Institute. The section on the Cult of the Shades, dealing with Death and the Shade lent by each person, is particularly illuminating and of interest. This Shade has to be reiterated into the lineage of which the dead was a member. It is a concept, as it were, of the heredity of the soul.

THE MASKS OF GOD: PRIMITIVE MYTHOLOGY

By Jcseph Campbell. Secker & Warburg, London, 1960. Pp. 504, 18 illustrations. Price 35s.

This is a solid and profound work on the study of the history and origin as well as the functions and rituals of myth.

The author discusses Jung's archetypes, and then turns to the discussion of whether similar myths in far away places are the outcome of parallel evolutions, or the diffusion of a common idea from a single centre. He pushes back the foundations of such common myths to the earliest stages of man.

With much of this one will be in agreement—for there must be common parallel evolution of myths and rituals to all races of men just because they are *homo*, and if the primates had evolved sufficiently far to have speech, myth and ritual, we might well have some parallelism in common with them also.

The weakness of practically all works on social anthropology is that they usually omit one important variable—that of race or speciation in man.

While there are myths which, no doubt, may be traced to a common *homo* level, these have been transmitted in the evolutionary development of each race, and besides these, entirely new concepts and experiences have originated in each stock.

Consequently the *differences* are as important as the *similarities*. Yet social anthropologists tend very largely to ignore these, and in so far as they do, their work still lacks scientific validity.

So, when we get attempts to equate the ritual execution of a king's entourage in prehistoric Mesopotamia (among a Caucasoid people of Mediterranean and Armenoid affinities) with the sacrifice of their kings by Negroid Sudanese tribes, we may well doubt the equation which has been made. On the other hand, the writer is on sound foundations when he sees connections in mythology in the vast area ranging from Madagascar to Hawaii, to New Zealand and on to Easter Island, for this vast

area has common linguistic affinities and also a large element of racial unity due to the diffusion of Malay stocks, Negroid, and even some form of Caucasoid, intermingling all over this oceanic world. One might well, therefore, expect to find myths related to Europe, Asia or Africa here. Such would be due to common origins of the various peoples with their parent stocks, with a superimposition of diffusion of mythology from one race to the other.

Parallel development must, however, have its place. To attempt to equate the serpent of the Garden of Eden with the widely-diffused eel myths of Oceania, and at the same time neglect the enormous differences in the two myths, is a case of the ignoring of an important racial variable. The Genesis story is essentially Caucasoid (with even cold northern latitude origins—the clothing of the fallen pair for instance). The serpent and eel are obviously phallic symbols, and wherever sexual knowledge or fertility are involved they have to be used. If there are men and serpents or eels on Mars we shall find these animal myths used for their mythology connected with fertility, sowing and reaping, and knowledge.

What is needed is a scientific approach to social anthropology which takes into consideration the fact that there have been species of men in the past, and there are certainly races now, if not species or sub-species, and there must be a distinct content of myth in each, apart from that which is common to all mankind, and apart from that which has been diffused from one to the other. Even those myths held in common must be divided into those coming from a common *homo* level, and those which are the result of simple parallel evolution, such as the serpent-eel-phallus symbols.

This book, in that it is stimulative of the need for such fundamental diagnostic research and classification, serves a useful purpose. It is a stimulating work, containing very much of value, and much that is new.

R. GAYRE of GAYRE.

PRIMITIVE MAN AND HIS WAYS: PATTERNS OF LIFE IN SOME NATIVE SOCIETIES

By Kaj Birket-Smith, translated from the Danish by Roy Duffell. Odhams Press, London, 1960. Pp. 239, 47 half-tone illustrations. Price 25s.

This is a book by a master of his subject, who examines the cultures of six primitive peoples, and evaluates the factors which have formed and set their characteristics. They are the Aborigines of Australia, the Tuaregs of the Sahara, the Maori of New Zealand, the Lapps and the North American Indians.

The author discusses what factors have caused these peoples to remain primitives, subordinate to nature and not dominant over it.

The account of the Maoris of New Zealand and the discussion of their origins is particularly good. The statement that the great pride of the Maoris in their ancestry and kinship "is not arrogance, but religion" is of wider application than this ethnological group. Indeed most peoples' pride of ancestry and kin has deep religious and cultural significance, and it is one of the singular and disturbing facts that among the Anglo-Saxon peoples the reverence for the preservation of these concepts was never so attenuated as it is in our time.

In view of the current advocacy in some quarters in favour of racial crossing, it should be noted that the Maoris, while avoiding cousin and second cousin marriages, normally married within their own tribes.

Books Received

MUST LABOUR LOSE?

By Mark Abrams and Richard Rose, with a commentary by Rita Hinden. A Penguin Special. Penguin Books Ltd., Harmondsworth. Middlesex, 1960. Price 2s 6d.

ANTHROPOLOGIE.

By Gerhard Heberer. Gottfried Kurth, Ilse Schwidetsky-Roesing. Das Fischer Lexikon, Fischer Bucherei, Frankfurt am Main, 1959. Pp. 363. Paper Back. Numerous Illustrations. Price DM. 2.20.

THE GATHERING STORM: THE FIRST VOLUME OF THE SECOND WORLD WAR.

By Winston S. Churchill. Penguin Books, 1960. Pp. 734, 14 maps and diagrams. Price 7s 6d.

LES MEKHADMA: ETUDE SUR L'EVOLUTION D'UN GROUPE HUMAIN DANS LE SAHARA MODERN

Sent by Dr F. Borrey, Director General of the Centre d'Etudes et d'Informations des Problèmes Humains dans les Zones Arides. With numerous photographs, tables, graphs and chronologies of nomadism.

THUMBSCREW AND RACK

By Geo. E. Macdonald. Published by The Truth Seeker Co., New York.

DIGNITARIAN WAY

By A. U. Brown. Published by the Dignitarian Center, Orange, California.

ORIGIN OF THE NAME "RUSSIA"

By Col. Calvin Kephart. Reprinted from The Naval Records. Vol. II, No. 4, 1944, in New York.

THE SWedes AND SWEDISH GOTHS: THEIR ORIGIN AND MIGRATION

By Calvin Kephart, Washington, D.C.

METHODISM'S CHALLENGE IN RACE RELATIONS: A STUDY OF STRATEGY

By J. Philip Wogaman. Public Affairs Press, Washington, D.C., 1960.

RACIAL DIFFERENCES IN MENTAL GROWTH AND SCHOOL ACHIEVEMENT: A LONGITUDINAL STUDY

By R. T. Osborne, of the University of Georgia, 1960.

MILITARY AFFAIRS

Published by the American Military Institute, devoted to American Military (including Naval and Air) History, Washington, D.C. Price \$1.50 per copy.

Vol. XXIII, No. 4, Winter 1959-60.

Vol. XXIV, Nos. 1-3, Spring 1960; Summer 1960 (Civil War Issue); Fall 1960 (Irregular Warfare Issue).

DALARNA'S FOLK: TYPER OCH HARSTAMNING

Bertil Lundman. Uppsala 1948.

NUTIDENS MANNISKORASER

By Bertil Lundman. Published at Uppsala in 1946.

NORDENS RASTYPER

By Bertil Lundman. Stockholm 1940.

EINIGE KRITISCHE BEMERKUNGEN ZUR ANTHROPOLOGIE
VORDERASIENS

By Bertil Lundman. *Dunum Natalicum H. S. Nyberg Oblatum: Orientalia Suecana*, Vol. III, Upsala 1955.

A large selection of monographs have been received through the kindness of Professor Joaquim Norberto dos Santos Júnior, including the following:

IMPRESSOES DERMOPAPILARES DE INDIGENAS DE MOCAMBIQUE—Santos Júnior (1950); ANTROPOLOGIA E HISTORIA—A. A. Mendes Corrêa (1954); A CULTURA PORTUGUESA NA AFRICA E NO ORIENTE—Corrêa (1950); CONGRESSO NACIONAL DE CIENCIAS DA POPULACAO—(1940); CONTRIBUICAO PARA O ESTUDO PSICOLOGICO DOS INDEGENAS DO ULTRAMAR PORTUGUES—Alfredo Athayde (1953); ANTROPOLOGIA DE MOCAMBIQUE—Santos Júnior (1956); GRAVURAS RUPESTRES DE LINHARES ENSAIO INTERPRETATIVO—Santos Júnior & Azevedo (1960); O PANGO OU PANCO—Santos Júnior (1958); A CHITATA—Santos Júnior (1958); O “MAROMBO” OU “MALOMBO” (TETE—MOCAMBIQUE)—Santos Júnior (1958); GRUPOS SANGUINEOS EM PRETOS DE MOCAMBIQUE—Santos Júnior (1958); PRECISIONS APPORTEES A L'APPRECIATION DE QUELQUES CARACTERES DESCRIPTIFS EN ANTHROPOLOGIE—Santos Júnior (1951); NOTA SOBRE A BRAQUICEFALIA DUM CRANIO DE MUGE—A. Athayde (1950); O INDICE CEFALICO EM RAPAZES PORTUGUESES DOS 7 AOS 13 ANOS—L. F. Paulo (1959); TABLE FOR THE GENERAL SHAPE OF THE NEGROES' HAIR—Santos Júnior (1959); THE ECOLOGICAL CONCEPT OF ETHNOGRAPHY—Santos Júnior (1958).

The following publications, all written by Professor Mario Cappieri, have also been received:

Lineamenti di Statistica Migratoria; Antropologia delle Antiche Popolazioni del Vincino e Medio Oriente; I Protomediterranei del Vicino e Medio Oriente; La Popolazione della Cultura Preistorica dell'Indo; Contributo alla Antropologia dei Bengalesi; Craniometria degli Andamanesi; La Popolazione Preistorica della Civiltà dell'Indo; I Protomediterranei delle regioni dall'Egeo al Bengala; La Popolazione Preistorica dell'Iran; Demographie des Andamanais et le Problème de leur Extinction; Les Tribus Andamanaises sous l'Aspect Biométrique; Brachycephalization as a Prehistoric Anthropological Problem; The Mediterraneans in Connection with the Prehistoric Populations and Indians.

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PSYCHIC AND CULTURAL TRAITS AND THE CLASSIFICATION OF HUMAN RACES

By CORRADO GINI

It was affirmed in the first edition of the UNESCO *Statement on Race*, and repeated in the second,¹ that the only traits which anthropologists could effectively employ in the classification of human races were physical and physiological. Psychic and cultural traits were thus excluded.²

That this is done is indisputable. But is it advisable that one proceed in this fashion? Is it inevitable that one follow such a procedure?

The answer is open to discussion.

One might observe that just such a procedure is followed with respect to all the other species of animals. Nevertheless, the human species distinguishes itself from other animal species not so much as a consequence of its physical and physiological traits but more so by virtue of the development of psychic and cultural attributes and it would seem natural that its intraspecific distinctions would be made on the basis of these characteristics which distinguish it.

It might be said that innate mental traits—intelligence and temperament—do not differ substantially from one race to another, and such an affirmation is, in fact, to be found in the UNESCO *Statement*, even with respect to their individual variability.³ This last contention would seem to accord itself badly with the other, dear to many sociologists and contained in the UNESCO *Statement*, that social and cultural differences between various populations depend, in turn, not upon biological, but upon cultural factors.

The two affirmations become reconciled for those who maintain, as do the editors of the UNESCO *Statement*, that the factors which create cultural diversity in various societies have no hereditary basis, but are the consequence of a different adaptation to prevailing environmental conditions or of different historical experience.⁴ Precisely because they lack an hereditary basis, cultural characteristics should be excluded from the classification of races.

It is to be observed, however, with respect to this proposition,

that, even assuming that the diverse populations were originally identical with respect to innate mental characteristics, differences of environment (at first natural, then also social) in which their life developed, would have inevitably impelled selection (natural, nuptial, reproductive) in a different direction for each race, in each favouring individuals possessed of traits better adapted to environmental conditions. And, since the individual differences with respect to the characteristics in question might be at times acquired but at other times innate, selection led, consequently, to the differentiation, in the adaptation to the environment, of the hereditary patrimony of the individual races.⁵

This can be said specifically of the propensity to labour and accumulation, a trait which has a decisive importance for the progress of a population, for its economic and military power, and which would therefore be continuously and effectively subject to the pressure of selection.

As a matter of fact, experience indicates that the representatives of populations noted for their disposition to labour and to frugality, conserve—in themselves and their descendants—those qualities even in the lands to which they immigrate, while those who derive from indolent and improvident populations do not easily come to lose those traits.

To decide, in any case, whether cultural traits of a population have, at least in part, a hereditary base or whether they constitute simply acquired characteristics is in practice very difficult. But this difficulty does not arise only with respect to such characteristics. In point of fact, after the researches of Boas on the European immigrants to America, those of Dornig on the Jewish immigrants to Berlin and above all after our own researches with respect to the Albanian colonies in Calabria and the Ligurian colonies in Sardinia,^{5b} it is very difficult to maintain that physical characteristics such as cephalic index, stature and also pigmentation, which constitute the basis for the classification of human races, are in fact hereditary and not, rather, acquired under the influence of the environment. Their permanent character, over a number of generations, would be, in the generality of populations, the effect of the constant conditions of the environment in which the population lives.

If, therefore, the observable permanence of a trait, rather than its uncertain and debatable heredity, is sought as the basis of racial classification there is no reason why only physical and physiological traits and not psychic and cultural characteristics should be considered to that end.

In favour of the exclusion of psychic and cultural characteristics might be adduced their variability in time, which, according

to some, is much greater than that of physical and physiological traits.

This opinion is apparently based upon the facility with which single individuals, or even groups of individuals, belonging to a given culture, can be assimilated by the host culture into which they immigrate, while maintaining unchanged their physical characteristics. But while this might be true of single individuals or for small groups of individuals, there is question whether it is true for entire populations.

The available data on the Albanian colonies in Italy (not only those of Calabria, but those of other regions and in particular those of Sicily) indicate a complete assimilation by the local populations of the descendants of immigrants from the physical point of view, while in language and custom their original cultural mannerisms survive. With respect to the Ligurian colonies in Sardinia, while these are gradually being assimilated to the local type from the physical point of view, they maintain, intact, their cultural patrimony in such a manner as to represent true and proper Ligurian centres in Sardinian territory.

The persistence of psychic traits, in the population of that territory, has not escaped the historians. Pietro Bonfante, the noted scholar of Roman history, informed with respect to ancient sources and shrewd observer of modern Latin peoples, has convincingly compared the psychological characteristics of the contemporary Spanish and French, no less than the Italians of various regions, with the description of the psychology of their ancestors left us by contemporaries.⁵

One could adduce, against the adoption of psychic characteristics as a basis for the classification of races the pronounced individual variability by virtue of which the individual differences within the same race are greater than the differences between diverse races.

Much the same, however, can be said for many physical and physiological characteristics that are employed as the basis of racial classification, particularly stature and cephalic index. Consequently, this cannot constitute a valid reason for excluding psychic characteristics.

It might be also observed that psychic and cultural traits are, in large part, independent of physical and physiological characteristics employed as the basis for the classification of races, therefore their inclusion would introduce new elements incompatible with the established classificatory system. It is, however, open to discussion whether the increased complication which followed would constitute a liability or an advantage. In any event it is to be observed that the geographic distribution of blood groups, recog-

nised, because of their rigorous hereditary character, as a physiological characteristic of prime importance for the classification of races, appears completely independent of the conformation of the body (in particular of the head) and of pigmentation, assumed in the past as the basis of classification. Blood groups appear, in fact, uniform for Mongolians and for the inhabitants of India, so different in their physical structure, cephalic index and skin colour, and instead, different for the Mongolians and the indigenes of America who are considered by many to be a Mongolian variety.

If, beside physical characteristics, one accepts, for the classification of race, blood groups which appear to be independent of them, the refusal to employ psychic characteristics does not seem justified.

While, therefore, there do not seem to be reasons as a consequence of which psychic and cultural characteristics, as distinct from physical and physiological characteristics, should be excluded from the classification of races, a strong reason can be adduced which would counsel the adoption of the first even in preference to the second: it is the decisive importance that psychic traits exercise in determining the differences of human societies. This is to be said particularly with respect to the propensity, above indicated, to labour and accumulation. For in this trait is found the fundamental difference between primitive populations, which, refusing to work beyond that strictly necessary to satisfy the most basic needs of existence, live on the margin of subsistence, and civilised populations in which individuals are disposed, even if in different measure, to make an effort which carries them beyond the subsistence level, and to conserve part of their produce with a view to future needs.⁷ The level of wealth, of technology and of civilisation of society is a function of the measure in which individuals labour and save.

If stature, cephalic index, pigmentation and blood groups prove, in practice, inconsequential to the ends of determining, among human populations, the level of culture—a characteristic which distinguishes them from other animal species—and this, instead, depends essentially upon the propensity to labour and to accumulation, are we not obliged to admit that we would be justified in basing the classification of humanity on this characteristic in preference to those others? It cannot be held that the considered characteristic escapes every quantitative determination, for wealth and profit can afford its appropriate index.

In conclusion, the proposal that, in the classification of races, one should consider not only the physical and physiological traits but also the psychic and cultural traits as well, seems justified—particularly the propensity to labour and to accumulation, a

characteristic which, in all seeming, is in part hereditary and which finds its measure in profit realised and in wealth accumulated.

NOTES

1. The *First Statement on Race* was edited for the first time in December 1949 and successively revised several times. The fifth and last revision was distributed in July 1950.

That *Statement* was prepared by a committee composed of Professors Beaglehole, Comas, Czeckanowski, Levi-Strauss, Ashley Montagu and Ginsburg, sociologists; Kabir, Secretary of the Ministry of Education of India and Skoeld of the University of Stockholm. The Professors Czeckanowski and Skoeld, however, could not participate in the conference and in their stead Mr E. Lawson (as an observer for the United Nations) and Professors Angel, Xirau and De Bie, representing UNESCO, were present.

The Editor of the first *Statement* was Professor Ashley Montagu. He subsequently published a volume entitled *Statement on Race* (H. Schuman, New York, 1951) which reproduced the *Statement*, providing its history and a commentary.

The *Statement* in question provoked much criticism, in particular on the part of geneticists, who objected that it reflected above all the opinion of sociologists. In reality, however, in the committee there were only two sociologists (Frazier and Ginsberg), while there were six anthropologists, of whom four were present and from among whom was selected the editor of the *Statement*.

The criticisms, in any event, led to the nomination, on the part of UNESCO, of a new committee, in which, as representative of the preceding committee, Ashley Montagu took part. This was composed of six anthropologists (Ashley Montagu, Bergman, Trevor, Schreider, Shapiro and Vallois), four geneticists (Dahlberg, Dunn, Haldane, Nachtsheim), a specialist in serology (Mourant), and a zoologist and anatomist (Zuckerman).

The editor of the *Second Statement* was Professor Dunn who, beside the *Statement*, provided a brief expiatory report. In this he recognized that, in general, the principal conclusion of the first *Statement* had been maintained, but with differences in emphases and with some important deletions. The passages of Professor Dunn's report have been taken from *Man's* edition (November 1951, p. 155) published with UNESCO's permission.

2. The affirmation of the *First Statement*, in this respect, is categoric:

"16. In matters of race, the only characteristics which anthropologists can effectively use as a basis for classifications are physical and psychological." Less explicit is the *Second Statement*, which seems to contain only a simple statement of fact. "5. Most anthropologists do not include mental characteristics in their classification of human races," but the report of Professor Dunn, which comments upon and interprets the *Second Statement*, is, instead, explicit. "We agreed that psychological traits could not be used in classifying races, nor could they serve as parts of racial descriptions."

3. The first and the second *Statement*, in the view of Professor Dunn's report are, in this reference, explicit. The *First Statement*: "17. According

to present knowledge there is no proof that the groups of mankind differ in their innate mental characteristics, whether in respect of intelligence or temperament. The scientific evidence indicates that the range of mental capacities in all ethnic groups is much the same." The *Second Statement*: "Moreover, there is good evidence that, given similar opportunities, the average performance (that is to say, the performance of the individual who is representative because he is surpassed by as many as he surpasses), and the variation round it, do not differ appreciably from one race to another." The report of Professor Dunn: "We had no difficulty in agreeing that no evidence of differences in innate mental ability between different racial groups has been adduced, but that here too intra-racial variability is at least as great as inter-racial variability."

4. The *First Statement* expresses itself: "18. Historical and sociological studies support the view that genetic differences are not of importance in determining the social and cultural differences between groups of *Homo sapiens*, and that the social and cultural changes in different groups have, in the main, been independent of changes in inborn constitution. Vast social changes have occurred which were not in any way connected with the changes in racial type." The same thesis, albeit attenuated, expressed in another passage (§ 10) of the same *First Statement*, is reproduced almost literally in the *Second Statement*: "6. The scientific material available to us at present does not justify the conclusion that inherited genetic differences are a major factor in producing the differences between the cultures and cultural achievements of different peoples or groups. It does indicate, on the contrary, that a major factor in explaining such differences is the cultural experience which each group has undergone."

5. Hence our theorem: "If, in a stable environment, two groups of individuals differentiate themselves by virtue of a character which, at least in part, is hereditary and which, at least in one of the two groups, is subject to natural selection, the differences observed between the two groups are, at least in part, innate." *Vide* C. Gini, "The Testing of Negro Intelligence," *MANKIND QUARTERLY*, Vol. I, No. 2 (October 1960), p. 122.

5b. See, on these researches, our paper "The Physical Assimilation of the Descendants of Immigrants" presented at the World Population Conference (31 August-10 September 1954), Rome, reproduced in the *Acta Geneticae Medicae et Gemellologiae*, Vol. III, September 1954 and in the *Proceedings of the IX International Congress of Genetics*, Bellagio, 1954.

6. Cf. P. Bonfante, "La persistenza dei caratteri fisici e psichici nella popolazione di uno stesso territorio," *Genus*, I, 1-2 (June 1934).

7. Cf. C. Gini, "Caratteristiche e cause della primitività," *Genus*, V, 3-4 (December 1942), *Economia lavorista: Problemi del lavoro* (Turin: Utet, 1957).

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Ethnic and National Characteristics of the U.S. Elite

By NATHANIEL WEYL

This paper presents preliminary findings concerning the national-linguistic and class origins of the intellectual and operational leadership of the United States as revealed by its surnames.

Method. Common surnames were chosen which were representative of (and which constitute a substantial proportion of) the national linguistic, class or regional populations to be studied. For example, the Jewish sample consists of 35 common surnames borne by 1,282,000 of the estimated 4,100,000 American Jews registered on U.S. Social Security rolls in 1957. The size of the sample used in each instance depends on such factors as surname distribution and the presence or absence of common "uncontaminated" surnames.*

After batches of representative common surnames have been chosen, the next step is to compute the proportion which the bearers of these names constitute to total entries in a variety of leadership rosters and in Social Security rolls. The ratio of the first fraction to the second, multiplied by 100, constitutes a performance coefficient for the group. Thus, a performance coefficient of 293 for Dutch names and of 25 for Italian names in the chief roster of American physical scientists means that, in this area, the performance of people of Dutch stock is about three times the national average, that of people of Italian origin one-quarter of it.

The advantages of the method includes speed and ease of calculation, minimization of subjective judgments, manipulation of aggregates large enough to make the problem of error due to random sampling insignificant and a standard operating procedure which can readily be repeated and checked by other investigators.

The method also has limitations. It assumes that the bearers of

* For the purposes of this study, names are "contaminated" when they represent two or more groups within the same category. Thus, MILLER is both German and English; IRVING is both Scottish and Jewish; LEE is English and Chinese. In the United States population, BROWN is contaminated because it is 31% Negro. Since Social Security codes its names in terms of the first six letters only, names such as MARTIN are contaminated and must be excluded since they include MARTINI and MARTINEZ.

high-frequency surnames within any group are comparable in respect to leadership potential with the bearers of low-frequency surnames. There is some reason to doubt this. In some instances, the rarer surnames originally represented higher class, status or educational origin than the others.¹ Also it is possible that the more successful (and hence, as a rule, the genetically more favoured) groups tended to select less common surname spellings. Thus CLARKES and COOKES are more heavily represented than CLARKS and COOKS in American science.

Moreover, the performance coefficients are slightly distorted by the presence of name-changers. Name-changing is generally into the majority (English) group and is quantitatively important as far as English performance is concerned only in the case of the Negro. By judicious selection of English surnames, we have largely eliminated the Negro component and substantially reduced other name-changing elements. In considering the effect of name-changing on the performance coefficients of the minority groups from which the changes occurred, it is well to remember that the name-changers generally shift simultaneously from the leadership rosters and Social Security rolls. Thus, the main remaining issue is whether changers and non-changers are similar in respect to leadership potential and leadership achievement. Where the minority has low prestige, the changers will generally advance more readily. The name-changers are perhaps weaker in ego structure, but also more bent on success within the macrocosm of U.S. society as against the microcosm of the society of the minority group from which they derive. Thus the presence of name-changers tends to underestimate the achievement of these minority groups.

The performance coefficients describe the participation in U.S. leadership of the various groups of immigrants and their descendants. This determination would be of great importance in the formulation of a rational immigration policy based on American national interests rather than on political considerations. However, the performance coefficients do not necessarily characterize the nations from which the immigration derived. In general, the English, Scots, Welsh, Scandinavian, German, Dutch and Jewish elements in the U.S. population are probably either representative or positively selective. The French group, however, is weighted down by the presence of French-Canadians; the low Italian performance reflects characteristics of the Sicilian and Calabrian peasantry rather than of the Italian people as a whole; the Spanish-

¹ Generally speaking, the aristocracy in most countries derive their surnames from their estates, and consequently these surnames are much less common than those of the other classes, derived from patronymics, or trades, or nicknames, such as Robinson, Baker and White.—EDITOR.

speaking group is overwhelmingly Puerto Rican and Mexican and is, to a great extent, racially mixed.

National-Linguistic Rank Order. In most intellectual and operational leadership rosters studied, Jews and Dutch are well ahead of all other national-linguistic groups. Within the English-speaking groups, Scots generally lead and Irish almost always lag. On the Continent, leadership is concentrated in North, West and Central Europe. The Mediterranean groups in the United States (the French excepted) provide the nation with negligible intellectual or operational leadership.

The performance superiority of Jews over Protestants and of Protestants over Catholics is marked.² This suggests that Galton was right in asserting that a celibate priesthood can destroy, and a fertile one create and enhance, the genetic potential of a people for intelligence, provided, of course, that the priesthood is selective for intelligence. The Jewish rabbinate has been much more fertile than Jewry as a whole since about the time of Christ; the Protestant clergy more fertile than the mass since the Reformation; the Catholic priesthood seldom more fertile if ever.³

The range in national performance coefficients is greatest in science and scholarship, somewhat less in *Who's Who in America*, engineering and business leadership. It is much less among U.S. Army officers and virtually disappears among Foreign Service and State Department officials. This conforms to a rational presumption that the range of achievement should be greatest in the most mentally exacting fields, less, but still substantial, in highly competitive areas of operational performance, but at a minimum in status-bound bureaucracies where advancement is frequently based on seniority or political influence.

Special Groups. In addition to the national-linguistic groups, we have analysed two special groups. First, there are the bearers of three common clerical names—CLARK, CLARKE and PALMER—representing 386,000 of the 117.3 million persons enrolled with Social Security. The hypothesis to be explored was that this group, being presumptively genetically superior in intelligence at about the time of the Crusades when surnames were assumed in the

²There is, however, involved in this question the ethnic one. The Scots and English tend to be Protestant, the Irish Roman Catholic. Consequently if the Irish and the Southern Italians weight the R.C. statistics, as they probably do, then they will affect the performance of the Roman Catholics as a whole.—EDITOR.

³This sweeping historical generalization is subject to many qualifications as to time and place. In this context, celibacy *vs.* fertility is not a range of sexual activity, but of the procreation, care and raising to adulthood of progeny.

IN THE U.S. POPULATION

CATEGORY	NO. ON SOC. SEC. ¹ (thousands)	AMERICAN MEN OF SCIENCE ²		WHO'S WHO ³	SCHOLARS ⁴	BUSINESS ⁵	STATE ⁶	ARMY ⁷	ENGINEERS ⁸
		Vol. 1	Vol. 2						
Jews	1,282	237	272	338	123	164	180	121	80
Dutch	73	293	217	90	172	216	165	129	135
Lothian Scots	208	172	163	154	128	172	112	105	137
Scots	833	126	144	146	126	147	132	115	158
English	2,532	116	118	111	107	109	100	n.a.	n.a.
Welsh	386	114	87	106	113	136	86	108	145
Irish	1,189	80	95	87	104	96	102	127	145
Germans	557	152	164	167	86	132	116	71	110
Scandinavians	348	140	206	158	84	108	102	108	110
French	261	139	95	46	80	83	74	108	112
Italians	98	25	20	5	10	76	23	21	99
Spanish	746	4	13	12	11	20	2	32	15
Negroes ⁹	906	neg	neg	neg	8	n.a.	n.a.	n.a.	13

NOTES

¹ Persons on the rolls of the Bureau of Old Age & Survivors Insurance, a total of 117,300,000 entries.

² *American Men of Science*, 1955-56 edition. Volume 1, The Physical Sciences, contains 43,518 biographies; Volume 2, The Biological Sciences, contains about 25,000 biographies and 5,000 references; Volume 3, The Social and Behavioral Sciences, probably contains 11,000 biographies. Performance coefficient for SMITH equated to 100.

³ *Who's Who in America*, 1955-57, about 49,500 entries. All entries equated to 100.

⁴ *Directory of American Scholars*, 3rd edition, 1957, about 22,000 entries. SMITH equals 100.

⁵ *Poor's Register of Directors and Executives, U.S. and Canada*, 1959, about 75,000 names. SMITH equals 100.

⁶ *Biographical Register*, 1959, covers 12,000 high and middle echelon officials. Total equated to 100.

⁷ *U.S. Army Register*, January 1960. Officers on active list, total 39,300. SMITH equated to 100.

⁸ *Who's Who in Engineering*, 1959. Five commonest English names equated to 100.

⁹ American Negro coefficients were derived by taking names in which the Negro proportion in the general population is known, calculating the performance of the English elements within this group and estimating the Negro performance from the residuals.

British Isles, may have continued to mate selectively, thus retaining its mental superiority. An affirmative answer presupposed the persistence of sexual selection of this sort over about 25 generations and 750 years, despite the absence of any self-consciousness of different and superior origin among these name bearers during the latter part of the time-span in question.

The findings were that the English Clerical Surname Group is superior. Its performance coefficient was 153 in *Who's Who in America* 1955-57; 186 among physical, 194 among biological and 186 among social and behavioural scientists; 147 in the *Directory of American Scholars*; 234 in *Poor's Register of Directors and Executives* and 175 among U.S. engineers. As we would have anticipated, the superiority of this group was not very marked in the American bureaucracy, which tends to appeal to those who prefer security to rigorous competitive struggle and to reward conformity more than creativity. The coefficients of achievement of the clerical subgroup were 128 among Army officers and 120 among higher-level State Department bureaucrats.

Another group is Special English Occupations. These are the four English occupational surnames (other than the clerical ones) with the highest performance coefficients in *Who's Who in America*. The names are: DRAPER, MINER, COOKE and POTTER.

Here again, superiority is marked and manifest. Their performance coefficients are 244 in *Who's Who in America*; 221 in *American Men of Science*, all three volumes combined; 264 among American scholars; 234 among Poor's business leaders and 237 among American engineers. Surprisingly, they are also significantly superior in the *Biographical Register of State Department officials* where their coefficient is 182.⁴

Thus, in five of the six rosters listed, the Special English Occupations group ranks above all other groups we have considered and, in *American Men of Science*, the SEO group is surpassed only by the Jews.

This consistent superiority is an observed datum which I was unable to explain in terms of original intellectual or occupational status. It occurred to me that a possible reason for this extraordinary performance was that the bearers of these four occupational names in the United States may be preponderantly descended from the original settlers of New England, about whom de Tocqueville wrote: "These men possessed, in proportion to their number, a greater mass of intelligence than is to be found in any European nation of our own time."⁵

⁴The coefficient of this group among U.S. Army officers was not calculated.

⁵*Democracy in America*, 1889 edition, Vol. I, p. 28.

I am indebted to Dr R. Gayre of Gayre for an alternative and probably sounder hypothesis. After observing that the trades, together with the aristocracy and the clerics, formed the leading element in medieval society, he writes:

"I would expect, therefore, to find trade names making high scores, since tradesmen in the Middle Ages were the people who provided the whole impetus of civic life, development and merchant venturing, and out of its profits built cathedrals, and fine parish churches—such as those built out of the wool trade in East Anglia, and which are a marvel to this day. We ought not to confuse the relatively low estimate of tradesmen today with tradesmen of 700 to 500 years ago. In fact they were the equivalent of what are often enough today the business executives and bankers of our time. Wolsey was the son of a Butcher, for instance, and out of these tradesmen came many of the clerics. Therefore, I would, in fact, expect the leading trade names to do well, perhaps as well as the clerical."

"This I would especially expect for the DRAPERS, who were leading merchants and merchant venturers, and MINERS. The miners were not merely mine workers. They were engineers and sappers and master men. In Cornwall, they were so privileged that they were allowed their own Stannery Courts, and could not be tried before the Royal Courts."

Thus the remarkable performance of the Special English Occupations group reinforces the hypothesis already presented that, within any society, intellectually élite stock tends to maintain its genetic superiority through selective mating.

BIOGRAPHICAL NOTE

Nathaniel Weyl. Born in New York City in 1910. Postgraduate of Columbia University and London School of Economics. Author of *The Reconquest of Mexico* (1939), *Treason* (1950) *The Battle Against Disloyalty* (1951), *The Negro in American Civilization* (1960), *Red Star over Cuba* (1960).

Race Relations and Mental Health

A Review

BY A. JAMES GREGOR

This pamphlet* is one of the latest of the series published under the auspices of UNESCO, designed to "strike out the roots" of race prejudice, by dispelling errors of fact with the latest "scientific findings" and by ministering to the requirements of defective reasoning by providing the canons of proper logic (cf. Foreword, pp. 5 ff).

Since such is the proclaimed purpose of the literary undertaking we are here considering one would, legitimately, expect that evidences of factual impeccability as well as logical rigour would abound.

Curiously enough, this well intentioned, well written monograph commends itself but little in either of these respects. Instances of general confusion, the introduction of value predicates in discussions of fact, the gratuitous employment of the elaborate psychoanalytic machinery (of dubious serviceability), the seeming occurrence of elementary logical errors, all diminish the value of what might otherwise be an interesting speculative account of the nature and future of race antagonism.

The introduction commences with the broad and unqualified dictum that "modern biological and psychological studies of the differences between races do not support the idea that one is superior to another as far as innate potentialities are concerned" (p. 9).

Other than the fact that such an unqualified pronouncement is untrue,¹ the author, herself, indicates that its inclusion is gratuitous since our religious and ethical convictions commit us to a recog-

**Race Relations and Mental Health* by Marie Jahoda. Unesco, Paris, 1960. Pp. 48. Price \$0.50.

¹While it is obviously impossible, within the compass of this review, to consider all the contemporary biological and psychological studies of race differences, not to speak of their individual merit, many substantial works have appeared in the last few years which support the thesis of collective, psychological racial differences: *vide* A. Shuey, *The Testing of Negro Intelligence* (Lynchburg, Va.: Bell, 1958); also Professor C. Gini's review

nition of the value of individuals and races independent of their intelligence or achievement (*ibid.*). The fact that an individual, or an entire race for that matter (should one be found), is intellectually obtuse would not impair its moral or spiritual worth in the slightest.

To commence the enterprise the author, therefore, introduces an unnecessary confusion in the realm of discourse. If we are concerned with scientific findings then the blanket *pronunciamento* concerning the "equality" of races must be considerably qualified by the legitimate divergence of opinion which exists among specialists. If the author, on the other hand, is concerned with ethical or moral speculation then one does not support the thesis of equality of men by factual references. In these days of analytic sophistication one would have to be an incredibly naive ethical naturalist to imagine that facts determine value judgments.

The author makes intolerably ambiguous use of the word "equality."

The second immediate difficulty is the ascription of the inappropriate value predicates "superior" and "inferior" in the discussion of racial *differences*. "Superiority" and "inferiority" are judgments involving value components and as such are not subject to factual determination. If, on the other hand, they are used as predicates which refer to the suitability of any given trait in a given environment then they have a relative reference and can clearly be applied to those traits, possessed by groups of men, which result in the adaptation to a given environment. That is to say, deeply pigmented people are clearly "superior" in survival capacity in an environment where men are regularly subjected to the actinic rays of the sun. To deny them this kind of "superiority" would be tantamount to closing one's eyes to the obvious.²

The question, actually, is, in what sense is the term "superior" employed? If in a moral or spiritual sense, obviously scientists are not qualified to enter a judgment in the matter nor are their facts of moment in making a judgment. If "superior" connotes higher survival value in a given environmental context, clearly

"The Testing of Negro Intelligence," in THE MANKIND QUARTERLY, Vol. I, No. 2, October 1960, pp. 120-125, "Caratteristiche e cause della primitività," *Genus*, Vol. V, Nos. 3-4, December 1942, "Possono e devono i caratteri psichici e culturali essere tenuti presenti nella classificazione delle razze umane?" *Genus*, Vol. XI, Nos. 1-4, 1955; cf. I. Schwidetzky, "Anthropologie," *Fischer-Lexikon*, XV, 1959; cf. comments by various authorities in *The Race Concept* (Paris: Unesco, 1952), particularly Professor Mather, p. 26, Sir Ronald Fisher, p. 27, Professor Coon, p. 28, Professors Lenz, Muller, Little, Snyder on pp. 30 ff.

²Cf. Gini, "The Testing of Negro Intelligence," *op. cit.*, p. 123.

some groups of men are "superior," in that context, to others. In all charity it must be said that our author does not deny the fact that there are racial *differences* (p. 44)—the confusion arises out of the ambiguous employment of the predicates "superior" and "inferior."

Beyond these elementary confusions there are some fundamental questions of analysis and interpretation which the author has clearly left unresolved.

The principal thesis of the monograph is that "racial antagonism is determined from within rather than by adequate reality testing . . ." (p. 13). Then the author proceeds to indicate that the individual of "low mental health" has projected an inner, unresolved conflict with his Super-Ego upon the screen of his social contacts and identifies the Jews with the Super-Ego he wishes to reject. Should he suffer from the threats of the libidinous Id, he projects the characteristics of the Id (lazy, sloppy, dirty, immoral, over-sexed, troublesome, childish, possessed of foul odours and a carrier of disease) upon the Negro.

First of all, we are never informed why the Id is consciously, subconsciously, or unconsciously ever conceived of as "foul-smelling" or as a "carrier of disease." Or, on the other hand, why the individual should ever conceive the Super-Ego as noisy, bad-mannered and communistic (*cf.* p. 11). That these are traits ascribed by the prejudiced respectively to Negroes and Jews is a well-attested fact—but that the individual regularly characterizes the Super-Ego and the Id in this fashion seems to be taken as an article of faith.

The argument seems to follow this sort of logic: the prejudiced individual stereotypes Negroes as foul-smelling and carriers of disease. The prejudiced individual is merely projecting an internal personality problem on the world and identifies Negroes with his Id. Since Negroes are conceived of as foul-smelling and carriers of disease, the Id must be "subconsciously" or "unconsciously" characterized by these traits. But such an argument presumes precisely that which it is advanced to prove. Technically, such an argument is a *petitio principii*, a circular argument, more simply, question begging.

Nor is this merely an awkward lapse. On page twenty-seven the author offers a "psychoanalytically orientated" interpretation of the anti-miscegenation laws of white Africa. It proceeds in the following fashion: white men made their appearance in Africa without women of their own racial confraternity. They consorted with the natives out of lust since white men could not conceive of establishing a relationship which was characterized by a "shared life or common endeavour" with Negresses. Since they were pained by

the memory of their lustful acts they instituted anti-miscegenation laws to proscribe commerce with those who recalled to mind their moral frailty.

But the fact that such primary acts were acts of lust and not love is necessary to the course of the argument. The argument does not demonstrate why anti-miscegenation laws arise except in a trivial sense. The real question is why the first contacts with members of an alien race are the consequence of lust rather than love.

Instances of this kind of tortured logic impair the value of the monograph. Anti-Semitism, for example, is explained as the consequence of an inner-conflict with the Super-Ego. The Jews are identified with the Super-Ego. The next legitimate question is, why are the Jews, and not the Negroes or the Catholics, identified with the Super-Ego? Such an identification with the "traits" of the Super-Ego is not the result of "reality-testing." It is the outward projection of an inner psychological conflict. The author's candid, if perplexing, answer to this question is: Negroes and Catholics could not be identified with the Super-Ego because such a "combination of qualities . . . are not easily attributed to either of these groups!" (p. 19.)

We are faced, then, with the obvious conclusion that these qualities, or at least some of these qualities, are manifested by Jews as a social fact. Catholics cannot be identified with the Super-Ego because they are not possessed of the qualities of the Super-Ego.⁵ The real question here, one with which the author appears little concerned, is why are Catholics not possessed of such traits while Jews are? Why are Negroes possessed of the traits which characterize the Id while Catholics are not? Why do Negroes evince a given syndrome of traits under the pressures of discrimination and prejudice while Asiatics evince another?

These are questions which can hardly be answered by references to projection, introjection, transference, transfiguration, symbolization, reversal, inversion, conversion, codification, dramatization so common to the linguistic and speculative gymnastics of psychoanalytic interpretation.

Finally, while the author candidly admits that racial prejudice is "basic" and "universal" (p. 22), the closest Dr Jahoda comes to offering a feasible interpretation of group conflict is that primary

⁵This statement could only be made within the ambient of American conditions where Roman Catholics tend to be graded low from the social point of view. That this is arrant nonsense, as a universal rule, is clear if we transferred ourselves to Southern Europe where the Roman Catholic has a definite feeling of superiority over Protestants, and very definitely over Jews.—EDITOR.

distinctions are fostered by those who will profit economically from such distinctions (a narrow and not very defensible simplism) with the remainder of men conforming to conventional values as a consequence of their "low mental health."

More interesting, perhaps, than all this circuitous reasoning, is the solution tendered. Education, exhortation and satire, are accounted of little value in a positive programme of ameliorating racial antagonisms (p. 38). Voluntary interracial contact is equally of little consequence (p. 40). The author, instead, proposes *forced* interracial contact (p. 42).

The author admits that in the United States 80% of the population indicates a preference for residential segregation. She proposes that the government institute policies which would force integration—contrary to the express will of the vast majority of the constituent members of society. The rationale is that the individual's judgments will change only after he is forced to take up a different pattern of behaviour (pp. 42 ff). The process of changing the mind of the majority is essentially mechanical and coercive. Those who understand the mechanics of social and personal dynamics must, thus, direct the unthinking masses in the direction of "social progress."

Nor is there any prospect that such systematic coercion of the masses will one day give way to mature individual responsibility for we are told that the psychic defects which make such control necessary will be with us for the "foreseeable future." Freud suggested "interminable analysis" for the patients; Jahoda prescribes "interminable coercion" for the masses.

One need but reflect for a moment on the radically anti-democratic temper of these suggestions to wonder how such a solution accords itself with the avowed democratic principles of UNESCO. If we are to be anti-democratic in the service of equality, or progress, or social harmony, let us at least have the integrity to declare so openly.

This monograph, written by a competent and respected member of a specialised (albeit immature) scientific discipline, under the auspices of an international agency, raises more perplexities, confounds more logic, and threatens more established institutions than its tasteful prose and seeming academic credentials would lead the reader to expect.

As such it is recommended to the reader as illustrative of the sort of material which obscures the nature and the character of contemporary social problems.

THE EQUALITARIAN DOGMA*

By HENRY E. GARRETT

Up to World War I, it is probable that American scientists who gave the matter any thought at all, believed the Negro to be natively less gifted as a race than the white. The Negro was generally considered to be less intelligent and more indolent than the white, and as often lacking in the fundamental traits of honesty and reliability. And these judgments were concurred in by most white Americans.

Modern social scientists do not often accept these common-sense judgments. Instead, they hold that racial differences are skin deep; that whereas the black African differs from the white European in the breadth and depth of his civilization, there are no genetic or native factors to account for these differences, that all races are potentially equal in mental ability and differ only in their opportunity to achieve. Usually they will include motivation as a cause of racial differences, together with discrimination and prejudice.

This view that, except for environmental differences, all races are fundamentally equal has been called the *equalitarian dogma*. It has spread through many colleges and universities, is widely accepted by sincere humanitarians, by social reformers, by crusaders, by sentimentalists and (ostensibly) by politicians. Many ministers of religion, convinced that the concept of the "equality of man" is in keeping with the ideals of Christian brotherhood and of democracy, have joined the social scientists. Last, but by no means least, the Communists vigorously defend the equalitarian dogma. Only the man-in-the-street (uninstructed in modern anthropology) remains puzzled and unconvinced.

Equalitarianism, or egalitarianism as it is often called, finds its strongest support from two sources: the allegedly scientific group who have "proved" equality, and the religious folk who accept this proof and, on the basis of it, assert that belief in racial differences implies "superiority" and "inferiority" and as such is unchristian, shameful and blameworthy. Each camp supplements the other. The social scientists turn to moral denunciation when their evidence

*Use of the word "equalitarian" in this paper is limited to the meaning indicated above.

grows feeble, and the religious fall back on "science" to bolster up their ethical preachers. From these two directions the American people have for more than 30 years been subjected to a barrage of propaganda unrivalled in its intensity and self-righteousness. Today, in many departments of psychology, anthropology and even genetics, the equalitarian dogma has been installed as a major premise not to be questioned. Budding young scientists of independent mind jeopardize their careers by challenging the dogma and may be silenced by strong disapproval. Many college students have been strongly indoctrinated and parrot the equalitarian arguments without competent familiarity with the evidence, shifting from the "scientific" to the moralistic as the occasion requires. The northern press and many influential magazines, together with the radio and TV, confidently proclaim equalitarianism.

How can we account for the shift from a general belief in native racial differences to the equalitarian dogma? There are, I believe, five main sources which have stimulated and directed the propaganda barrage mentioned above. Let us examine these in order.

1. The Rise of "Modern Anthropology"

By far the most potent assault upon native racial differences from the scientific side has come from the work of Franz Boas, who may be thought of as the "father" of equalitarianism. Boas came to the United States from Germany in 1886, and for 37 years (1899-1936) was Professor of Anthropology at Columbia University.

Boas accepted the idea of races, but held that such entities differ only in culture. In the 1938 edition of his *The Mind of Primitive Man* (perhaps his best known work), he wrote (p. 268) ". . . it seemed barely possible that *perhaps* (italics mine) the race (Negro) would not produce *quite so many* (italics mine) men of highest genius as other races, while there was nothing at all that could be interpreted as suggesting any material difference in the mental capacity of the bulk of the Negro population as compared with the bulk of the white population." This is a curious statement. Could Boas say truthfully in 1938 that the African Negro had produced *any* men to compare with the best of the European whites: to compare, for example, with Aristotle, Cicero, Thomas Aquinas, Galileo, Voltaire, Goethe, Shakespeare or Newton? On the other hand, consider the Jews, Boas' own ethnic group. By almost any criterion, the Jews have produced a disproportionate number of intellectually gifted persons, and this despite the handicaps under which they have often lived and worked. Did "culture" alone produce these outstanding men or was there better native endowment to begin with? There is much indirect evidence that

Boas' devotion to the equalitarian dogma in his later years was in part motivated by strong political and social convictions. But it is hard to document this.

Boas' followers have actively and aggressively championed equalitarianism, and have discounted (and often belittled) any evidence tending to show that Negro-white differences in mental tests may not be environmentally determined. But the cultural anthropologists rarely use objective measures recognized as valid for judging the comparative worth of racial groups. In consequence, their conclusions, though confidently announced, are often subjective and unconvincing.

The view held here is that psychological tests offer the best, i.e., most valid, quantitative data for the determination of race differences. The best recent survey of the comparative standing of American Negroes and American whites on a number of mental tests may be found in the book *The Testing of Negro Intelligence* by A. M. Shuey, published in 1958. (It is significant of the power and lack of tolerance of the equalitarians that none of the university presses to which this book was submitted was willing to publish it.)

The Testing of Negro Intelligence covers the 44 years from 1913 to 1957, and analyses some 200 studies. Negro-white comparisons are made of pre-school children, grade and high school children, college students, gifted and retarded children, soldiers, delinquents, racial hybrids and Negro migrants. A brief summary of relevant findings is as follows:

1. IQ's of American Negroes are from 15 to 20 points, on the average, below those of American whites.
2. Negro overlap of the white median IQ's ranges from 10% to 25% (equality would require 50%).
3. About six times as many Negroes as whites fall below IQ 70, that is, in the feeble-minded group.
4. About six times as many whites as Negroes fall in the "gifted child" category.
5. Negro-white differences in mean test score occur in all types of intelligence tests, but Negro lag is greatest in tests of an abstract nature, for example, problems involving reasoning, deduction, comprehension and the like.
6. Negro-white differences increase with age, the gap in performance being greatest in high school and college.
7. Large and significant differences in favour of whites appear even when socio-economic factors have been equated.

It seems clear that the evidence from psychometrics does not support the equalitarian dogma.

2. Hitler and the Nazis

Undoubtedly Hitler's cruelties and the absurd racial superiority theories of the Nazis set up a favourable climate for the proponents of the equalitarian dogma. It is easy for the equalitarian to argue that acceptance of the *fact* of racial differences is a forerunner of notions of racial superiority, discrimination, prejudice and persecution. The argument is fallacious. Recognition of differences in ability between men and women and between adults and children does not lead forthwith to prejudice and persecution; in fact, the contrary is true. Recognition of the talents of many Negroes for sports and for various forms of entertainment has if anything improved the feelings of the white majority toward Negroes generally.

Hitler's persecution of the Jews has greatly oversensitized the American Jew toward anything which smacks of racial distinction. The preoccupation of the Jews with racial matters today is evident in the activities of various Jewish organizations. Most of these belligerently support the equalitarian dogma which they accept as having been "scientifically" proven.

3. The Rise of African Nationalism

The struggle for freedom and self-determination by the various peoples of Africa has aroused the sympathy of many white people, and has undoubtedly fortified the emotional appeal in the idea that all men are born equally endowed. But emotionally-founded beliefs can be deceptive. It is well known that the African Negro has been self-governing throughout most of history, the colonial period being relatively short (only 80 years in the Belgian Congo). During his long period of self-government, we find not the fantasy of the happy savage free of modern tensions, but the reality of a miserable creature tormented by disease and enemies, living a life of indescribable squalor. In the nearly 6000 years of recorded history, the African has never constructed an alphabet, created a science or literature, or built up a civilization. Toynbee, the eminent British historian, has written that of the 21 great civilizations of the past, not one has been Negro. To be sure, we are often reminded of the Negro kingdoms of West Africa which, during the 12th century, briefly attained a level of civilization relatively high for that period. But these "magnificent civilizations" as the equalitarian anthropologists call them were hardly on a par with the then flourishing civilizations of France, Italy and the Near East. Moreover, Timbuktu with its allegedly "great university" was Moslem and Arabic, while the university itself was little more than a large mosque with a few teachers.¹

¹It can be said that the racial infiltration of Hamitic origins, with traces

African history offers no comfort to the equalitarian unless carefully rewritten and "interpreted."

4. The Supreme Court Decision of 1954

In May of 1954, the Supreme Court of the United States handed down its decision on desegregation of schools. This decree was hailed by proponents of the equalitarian dogma, who rightly regarded it as a great victory for their cause. A great many people, however, are disturbed by the confusion of legal and moral rights and their relation to biological and psychological differences.

Both the legal and psychological aspects of the Supreme Court's decision are questionable. When the Constitution means one thing for 60 years and then overnight means just the opposite, it is hard for the ordinary citizen to be convinced that we are ruled by laws and not by men. As to the psychological aspects of the decision, many critics have pointed to the dubious credentials of the "experts" cited by the Court, and the subjectivity of their evidence.

Perhaps the only justification for the Supreme Court's decision is the view that the end justifies the means, and that the end is sufficiently desirable to risk dispensing with the Constitution to attain it.

5. The Influence of the Communists

Undoubtedly Communists have aided in the spread and acceptance of the equalitarian dogma, though their motives have been anything but humanitarian. Direct action as well as subversion are in the Communist creed. Hence the forceful application of the equalitarian dogma, as in the school desegregation cases, inevitably foments dissention and bitterness on which the Communist thrives. Communists and their front-men have served the cause of equalitarianism well: in government, in entertainment, in radio and television.

* * *

The weight of the evidence favours the proposition that racial differences in mental ability (and perhaps in personality and character) are innate and genetic. The evidence is not all in, and further inquiry is sorely needed. Surely there are no good reasons why restrictions should be placed on further scientific research and discussion. At best, the equalitarian dogma represents a sincere if misguided effort to help the Negro by ignoring or even suppressing evidences of his mental and social immaturity. At worst, equalitarianism is the scientific hoax of the century.

of Semitic (Mediterranean), and cultural influences from Egypt and the Semitic world, are clearly perceptible in these regions.—EDITOR.

The Kurumbas in the Nilgiri Hills of South India

BY R. RUGGLES GATES

The Nilgiri hills of southern India represent the most southerly thrust of the Deccan plateau. Their precipitous flanks lead down through winding roads to the plain below. The name is derived from *nila* (blue) and *giri* (hill or mountain). According to King (1870) this bamboo jungle home of tigers and elephants remained unexplored until 1819, the first road from Coimbatore to the summit being built in 1821. The Nilgiris, according to King, extended from the Tapti river to Cape Comorin. The Nilgiri plateau is 30 to 40 miles long and 10 to 24 miles wide. Mount Dod-dabett reaches 8642 feet high, other mountains 7416 feet and 5886 feet respectively. Recent plantations of tea, coffee and cinchona already existed at this time in the hill area.

Here live five hill tribes: Irulas, Badagas, Todas, Kotas and Kurumbas or Korubas (Breeks 1873). The Todas and Kotas are closely related and differ fundamentally from the other inhabitants. They clearly came from the north-west of India and will be described in a later article. Their social relations to the other tribes are peculiar, but not exactly symbiotic. Fürer-Haimendorf (1954) describes a peculiar rite by which the Kurumba and Toda exchange wives. Thurston (1909) states that several Kurumba brothers may take the same wife. Toda women take several husbands who may be brothers. This custom was probably borrowed by the Kurumbas from the Todas. The Todas occupy the dominant social position in relation to the other tribes. In skin colour, the Badagas are regarded as the fairest and the Irulas the darkest of the Nilgiri tribes (Thurston 1909), but this may not be accurate.

The Badagas are by far the most numerous. They are not aboriginal, but farmers. According to Breek's account, each Badaga village had Kotas in a nearby Kotagiri village. They worked as artisans for the Badagas and were paid in grain at harvest time. The Todas similarly employed Kotas and paid them in buffalo hides or *ghee* (melted butter). The Kurumbas paid the Kotas for services in grain, and the Irulas in plantains or grain. The Badagas are Hindus, chiefly of the Shiva sect, supposed to have migrated from Mysore c. 350 years ago, after the Vijayanagar Kingdom

was broken up. In the Census of 1871 they numbered 19,476. They paid tribute in grain to the Todas; their language is a corrupt Kanarese.

The Irulas (formerly Eruelas) numbered only 1470 in the Indian Census of 1871 (Breeks 1873), located in 16 localities but without castes or divisions. They are stated by Breeks to differ from the Kurumbas in having more prominent cheek-bones with a shorter and flatter nose. They speak a dialect of Tamil. "The Irulas belong to the Vedars, or hunting people, whose expulsion from, or extermination in, the settled parts of India is constantly recorded by tradition," but they have no traditions of their own past.

The Kurumbas or Kurubas (originally Curubaru, singular Curuba) were stated by Breeks to be of two kinds. The first sometimes cultivated the soil and had "the largest flocks," but never made wool blankets. The second, known as Handi or Cumly Curubaru, tended their flocks and made blankets from the wool. There was no communication between these two branches. They lived by collecting honey,¹ edible roots and fruits, also capturing animals in nooses, nets and stone gins. They ate the spotted deer, squirrels, wild cats, rats and snakes. They could fell trees and square the timber. They would not eat with any tribe but the Badagas. However, they would accept uncooked food from the Todas but not from the Kotas. How far these taboos still hold I do not know, but in recent years they have been mahouts of elephants and are now general workers in the teak forests.

Travelling in the Nilgiris in 1938, I visited a band of Kurumbas with a rude flute and drum, and heard of them as watchers of the elephants in the bamboo jungles under the guidance of forest officials. Their hair, matted like a mop, has been distinctive from the beginning, but now, as forest workers, they have submitted to the services of the barber (see Fig. 1).

The Kurumbas have a sinister reputation for sorcery and witchcraft, holding the other tribes in fear by these means. Their priests performed annual ceremonies for the Badagas at seed-time and harvest. Apparently, some buried and others burned their dead. They formerly built small cromlechs, consisting of three upright stones and a covering slab. Thurston (1909) also describes the small dolmens built by them over a grave. Some surrounded the burial spot with a circle of small stones. This appears to be the last stage in the decadence of the great megalithic tradition, remains of which are found abundantly in many parts of India.

¹The collection of honey from bees' nests in trees is one of the oldest of hunting occupations. In the cave Alpera in Spain are drawings believed to be of Upper Palaeolithic age which show a honey gatherer climbing a rope to reach a bees' nest high in a tree (Maringer 1960).

The Nilgiri megalithic monuments are described by Breeks. For modern accounts see Wheeler (1948, 1959). The first of these is an account of certain megalithic structures in Mysore which are



Fig. 1. A GROUP OF KURUMBAS

dated between 200 B.C. and the middle of the first century A.D., overlapping the Andhra culture. Some, of course, are millenia older.

Regarded as the first settlers in Tondamandalam, the Kurumbas formerly occupied a large area including the sea-coast from Pulicat to Cuddalore and west to the foot of the Eastern Ghats as well as much of Mysore. The inhabitants were called Vedars (Veddas) and Curumbars. In religion they became Jains. The Chola and Pandya kings made war on them. Dravida was prosperous in the 7th century A.D., expanding at the expense of the Cholas, but according to an inscription, the capital of Chol was burned A.D. 489. The Curumba princes were of Pallava race, and war between the Chalukas and Pallavas went on for centuries. The Pallavas, who are regarded as ancestral to the Kurumbas, were dominant in South India from c. 550-750 A.D. and reached their zenith as a powerful people in the 7th Century. Their language

was Tamil, and their sculptures were gradually changed from wood to stone, as those of Asoka had been a thousand years earlier.

Many Pallava antiquities—inscriptions in three kinds of Sanskrit alphabets, sculptures and rock-cut temples—are described from a number of different sites in South India by Jouveau-Dubreuil (1916). These works reached their zenith under Narasinhavarman I, who reigned c. 625-650 A.D., after which decadence set in, but Paramesvaravarman I (c. 660-670) continued to struggle against the Chalukyas. The known Pallava history is derived from inscriptions engraved on copper-plates, and these early sculptures are of high artistic merit.

The victory of a Chola King in the 8th Century scattered the Kurumbas far and wide. Many fled to the hills, the Nilgiris and Wynnaad as well as Coorg and Mysore, where they became wild and uncivilized. When finally their forts were taken, the Curumbas were destroyed. A great cyclone on the south-east coast may have aided in their downfall. This defeat of the Kurumbas is placed in the 15th Century. The advancing Mohammedans destroyed the Warangal in 1323. This was followed by the Vijayanagar Hindu dynasty which ended c. 1508. The Kurumbas were then persecuted and many were massacred and exterminated, while others fled.

About 1830 the Kurumbas were practically slaves of the dominant Coorgs. In 1835, a group of 48 were massacred, and in 1900 the whole family of a Kurumba medicine-man were murdered, apparently from fear of their magic and sorcery.

In a very early account of Mysore by Buchanan (1807), in which he reported extensively on Indian methods of agriculture but shows no interest in the tribes except as they contribute to agriculture, the "Cad Curubar" were described as a rude tribe with a mop of hair filled with vermin. They built low huts and were used to scare away the elephants at night with torches. The breed of sheep they kept were also called Curumbars. "The Curubas pasture their flocks chiefly near Coimbatore." They are "all of Karnata extraction" and never cultivate the ground. Each man "possesses from 50 to 100 sheep without paying any rent, and at night he folds them on the arable lands of the cultivators, who might each give a *Bulla* of grain to the proprietor of one hundred sheep for the manure. Every family of the Curubas pays a poll-tax, and there is a duty on their blankets." The Kurubas were thus known as shepherds and weavers.

Abbé Dubois (1899), who lived in India from 1792 to 1823, and whose manuscript was later translated into English, refers (p. 66) to the Kurumarus or Kuravers as one of the largest of several nomadic castes he described in India. They were in two branches: one traded in salt, carrying it on donkeys from the coast to the interior in return for grain; the other made baskets

TABLE I

MALE

BETTA KURUBAS, Karampore

	AGE	EYES	SKIN	HAIR	L	B	C.I.	NOSTRILS	EARS	LOBE	HEIGHT
Gady Mara	c.72	4	3 more yellow	wild & wavy greying	187	138	73.79	40.7	72 x 32	—	152 Fig. 4
Kammara Kala	25	3	nr 2 more brown	wild & wavy curly, black	178	138	77.53	44	58 x 30	lobe	144.5 Fig. 5
Kammara B.K.	65	3	nr 1	black, v. curly & wavy	179	134	74.86	42	63.2 x 31	small lobe	147.5 Fig. 6
Karapur Mada	62	3	F nr 3	black, wavy to curly	177	124	70.06	35.3	56 x 36	no lobe	150

JENU KURUBAS

Modli, Mudda	c.70	5	F 3	black, wavy	174	138	79.31	38.5	63.5 x 35.2	lobe	165 Fig. 7
Bomma of Karapur	58	3	nr 2	black, wavy	181	134	74.03	42	60.7 x 32.5	small lobe	157 Fig. 8

KARANKOTE (JENU)

Suba	c.50	5	F 3	black, wild	171	134	75.70	35.5	59 x 33	small lobe	156
Deva	35	4	F 3	& curly	174	133	76.43	33	48.6 x 32	attached, no lobe	155
Kala	c.28	4	F 3	black, wavy	175	124	71.43	34.7	55 x 23.8	small lobe	154
Kala	c.30	5	F nr 3	& curly	177	125	70.62	36	57 x 37.3	lobe	144
Chelwa	c.65	5	F 3	black, wavy	173	126	72.83	35	60 x 35.3	no lobe	153
Mara	c.80	5	2	& curly	184	136	73.91	45	67 x 37.2	lobe	144

Kulla	c.16	4-5	F 3	black, wavy	188	141	15.00	
			B 2	& curly				
			F 3	black, wavy	186	138	74.19	37
			A 2	& curly			45.5 x 30.2	no lobe
Karia	18	4	F 3	black, wavy	179	135	75.42	38
			A 2	& curly			54.5 x 31.5	attached, no lobe
Chelwa	c.15	4	F 3	black, wavy	179	135	75.42	38
			A 2	& curly				155

BYRANKUPPA (JENU)

Putta	c.50	4	3	black, wavy & curly	170	137	80.59	36	63.8 x 29.2	no lobe	158.5
					178.2	133.3	74.69	38.97	58.1	32.6	—
											153.7

MEANS (17)

FEMALE

Thimmy	c.35	4	F 3	black, wavy & curly	165	129	78.18	34	60 x 29	small lobe	151.5
Machi	c.50	3	F 2	black, wavy & not curly	166	126	75.90	38	53.3 x 30	small lobe	136
Kali	c.50	3	F slightly lighter	black, wavy & curly	164	124	75.61	34.2	53.7 x 29.9	small lobe	147
Madi	48	4	F 3	black & wavy (pug)	178	130	73.03	33.5	51.2 x 27.8	small lobe	141
Mari	c.28	4	F 3 more yellow	black, wavy & curly	165	134	82.21	35.2	52 x 26.3	lobe	134
Sami	22	3	F 3 more yellow	black, wavy & not curly	155	134	86.45	32	54.5 x 27.2	small lobe	149
			B 2								Fig. 12

MEANS (6)

	165.5	129.5	78.56	34.48	54.11	28.33	—	—	—	—	143.08
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and mats. They were all professional thieves and fortune tellers, having no fixed abode. In time of war they foraged for supplies which they stole to provide for the army. We thus get glimpses of changing conditions and occupations of particular tribes through the centuries. Later (p. 76), Dubois describes the life of the "Kadu-Kurumbars" in the Malabar hills. They dug small gardens and collected roots and honey in the forest. They had no bows and arrows. By day, the babies were left in a hole in the ground lined with teak leaves.

In one of the earliest general accounts of the Kurumba tribe I have seen, Shortt (1868) says they are "small in stature, and have a squalid and somewhat uncouth appearance from their peculiar physiognomy, wild matted hair, and almost nude bodies." The Census of 1871 recorded 613 Kurumbas (300 male, 283 female). The terms Kurumba and Kuruba are in the Tamil language, while Kuruba is the Telegu or Canarese name for the same caste (Thurston 1909). Those in the jungles of the Nilgiri plateau were known as Kadus. They were wild and spoke a Tamil dialect, while the more civilized branch on the plains, known as Uru, spoke Canarese. The former were said to be short, dark and platyrhine while the latter were taller, lighter and more leptorrhine. However, those I saw in the elephant jungles in 1938 were leptorrhine, and I regard this character as an original condition of the tribe. Fig. 3 represents my conception of a near typical Kurumba. His nostrils measured 37 mm., but some are more leptorrhine. He was working in a paddy field among Paniyans at Oliyot village. His other measurements are shown in Table II. The Kurumbas are evidently not Australoid in origin and the broad noses of some have been acquired through crossing with Australoid tribes in South India.

The aboriginal tribes of Wynnaad (originally Vana-Nad—land of forests) are the Paniyar and Kurumbas. Raghaven (1929) has described the life and habits of the recent Kurumbas. The Ten or Jain Kurumbas (Jain is a corruption of Jenu—honey) still live in the jungle, having migrated from the forests of Mysore. The others he classifies as (1) Mullu Kurumbas, cultivators and hunters who wear a hair tuft in front and speak Malayalam; and (2) Bet or Vettu Kurumba, also called Urali² Kurumba. They fell trees and are artisans, speaking a dialect of Malayalam and Kanarese.

Iyer (1929) divides the Kadu Kurubas (formerly also known as Kurumans) into two sub-tribes, Betta K. and Jenu K. My wife

²In 1938 I visited a group of Uralis who lived at the end of Lake Periyar high in the Nilgiris. After spending half a day being paddled along the lake in a dugout, we reached a hamlet of houses built high up in the trees to escape the elephants who come at night and raid their gardens.



Fig. 2 The thatched house of a Chief of Betta Kurubas



Fig. 3



Fig. 4



Fig. 5



Fig. 6



Fig. 7

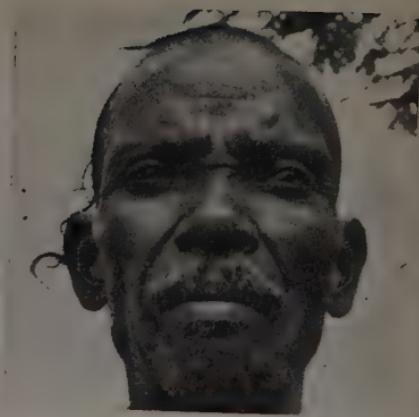


Fig. 8



Fig. 9



Fig. 10



Fig. 11



Fig. 12

and I visited villages of both these in 1959. Iyer finds three groups among the Betta Kurubas: 1—Ane (elephant); 2—Bevina (nim tree, *Melia Azaderachta*); 3—Kolli (fire-brand). This grouping apparently has little significance or permanence. Those who live in the jungle with elephants, wild pigs, tigers and leopards have no weapons with which to kill these animals, and they are sometimes carried off by a tiger or killed by an elephant. The Uru Kurumbas are civilized, living in eastern districts of Madras and Mysore. The present forest denizens have apparently lapsed from civilization, having lost the culture of the Pallavas. Iyer states that there is hardly a province in India which has no remnant of these people or their culture. He, no doubt rightly, regards them as a very old race who "contest with their Dravidian kinsman the priority of occupation of Indian soil." We may thus regard them as a remnant of the Eastern Mediterranean race, surviving in southern India. Those in the Nilgiris are regarded as offshoots of the Kadu Kurumbas on the borders of Mysore Province.

Observations

To study the Kurumbas my wife and I travelled in December 1959 from Mysore City by car to Karapur, a distance of 42 miles on a very rough road, passing many bullock carts in close array with loads of teak and bamboo. We arrived at the famous Hunting Lodge, formerly frequented by Viceroys and Maharajahs but now seldom used. Then we continued on to Karampore, and from there walked a mile through tobacco fields and across small streams to a village of Betta Kurubas. This village was in a clearing of a bamboo forest. The small reed huts stood in a circular design facing a centrally located reed pavilion which had religious significance. Sanctions forbade Europeans to go close to this pavilion. Here we measured and photographed four men and four women, as well as taking a view of the thatched house of the Chief (Fig. 2). These women are recorded in the last four lines of Table I. We then walked a short distance into the forest to a village of Jenu Kurubas which was nearly deserted for the day. Most of the men were doing Government road work and the women fled with their babies when they saw us approaching, but some of the children followed us around. In an enclosure were about a dozen thatched square huts with walls of plaited split cane. Their main occupation is collecting honey in the jungle, while the Betta make baskets. Both groups have now begun cultivation, tobacco being most in evidence, as well as mustard oil fields. They chew and smoke tobacco, and they have goats and chickens.

From here we went by car six miles to Karankote where there were many forest workers under Government employ, all illiterate,

receiving one rupee per day. Their main food is ragi (*Eleusine Coracana*), similar to millet seeds; with very little rice. Here a group photograph (Fig. 1) of ten men was taken. Proceeding another six miles to the village of Byrankuppa in the Karanakota forest, among derelict orange trees with almost fastigiate branching, we were able to measure only one man and two women. The rest were working in paddy fields some distance away.

The results of the measurements in these four villages are assembled in Table I. No distinction is made between Betta and Jenu Kurubas. All the Betta (4 male, 6 female) examined were in the first village, at Karampore. The total in Table I are 17 male and 6 female. The means show that the males are mesocephalic (C.I. 74.69) while the mean C.I. of the females is 78.56. They are markedly less dolichocephalic than the males, as is generally the case. The width of the nostrils is 38.96 in the males and 34.48 in the females, i.e. they are leptorrhine like the Mediterraneans, in contrast to the Australoid tribes, who have very broad nostrils. This use of the term leptorrhine is somewhat different from that based on skull measurements. The mean ear-length of the 17 males is 58.1 mm. and that of the six females 54.1 mm.; females in nearly all races having smaller ears than males. The ears of Kurumbas are smaller than in Europeans. I have pointed out elsewhere (Gates 1961) that the ears may generally be expected to grow in length, on the average about 1 mm. per year. The mean age of the males in Table I is 44.4 years and that of the females 38.8 years. The mean ear-length of the males should on this account alone be over 5 mm. greater than in the females. Males almost always have longer ears than females. However, all the ages are guesses, so an argument cannot be based on these figures. As regards the ear lobe, with only four exceptions it is either small or absent, this condition being rather unusual.

In stature the males average 153.7 cm. and the females 143.1 cm. This difference of 10 cm. between the sexes is not unusual. It will be seen that the male stature is not much above 150 cm., which is conventionally regarded as the upper mean limit for dwarf races. The Kurumbas are thus short and of light build, with relatively small heads, narrow noses and small features. In other words their characteristics are those of the Mediterranean race. In short, they are Indides in Eickstedt's terminology, a branch of the Dravidians, differing from the Mediterraneans of Europe chiefly in being short in stature (although many Italians are also short) and in having at least one gene for skin pigmentation. The number of skin-colour genes can only be determined by the study of crosses with other races, especially with Caucasoids. Comparison with other races suggests that not more than one or two genes for skin

pigment are present in the Kurumbas. Those who remain leptorrhine are of relatively pure descent, while those with relatively broad nostrils, up to 40 mm. or more, probably have some ancestry derived from the broad-nosed Australoids. A number of Australoid tribes exist in South India.

My observations as recorded show that the brow ridges in males and females are generally slight or absent, marked in only one man. The nasal root is generally half-depressed, sometimes less so, not at all depressed in one man. The black hair (Table I) was in nearly all cases both wavy and curly. The skin colour was mahogany rather than black (Gates chart), and the face was generally one shade lighter than the body. Shortt (1868) adds as Kurumba features wedge-shaped face, prominent malars, slightly pointed chin, eyes dark brown (in Table I, 3 and 4 represent dark brown of the Martin scale, 5 lighter brown). The Kurumba are certainly not Negritos, as has sometimes been averred. (See also Gates 1961 *a*).

Some measurements of Kurumba males are recorded in Table II.

TABLE II

	N	C.I.	NOSTRILS	N.I.	STATURE	EARS
Table I	17	74.69	39	—	153.7	58.1 x 32.6
Figure 3	1	76.79	37	—	160	62 x 35.8
Shortt (1868)	25	—	—	—	154.2	
Thurston (1909)	—	76.5	—	86.1	157.9	
Thurston (mean of 3 other groups)	—	—	—	78.9	161.3	

It will be seen that Shortt's (1868) measurements for stature agree closely with the modern ones, Thurston's (1909) being a little taller (the number not given). The C.I. agrees reasonably well, but the N.I. in Thurston's three groups ranges from 73.2 (Mysore) to 88.8 (Nilgiris). This, as already mentioned, is evidently the result of the original leptorrhines crossing with broad-nosed Australoid tribes. Eickstedt's (1933) classification of Indian racial types is undoubtedly a great advance on earlier attempts, showing greater insight into Indian racial history. However, it seems better to use the name Australoids for the broad-nosed jungle tribes, confining the term Veddids to the Ceylon remnant who are generally smaller in their dimensions. Eickstedt classes the Kurumbas with Birhors as forest nomads or Veddids. We find it necessary to regard the leptorrhine Kurumbas as essentially East Mediterraneans in origin, with finer features. Eickstedt's views, though based on very extensive observations, are probably not the only possible way of

dissecting the racial migrations and mixtures which have been taking place in India for ten thousand years.

Sickle Cells

Lehmann and Cutbush (1952) made the important discovery that the sickle-cell gene previously known only from Africa, was present in South India. Of 201 Paniyans, Irulas and Kurumbas tested, which are classed by Eickstedt as Veddids, 63 (31 %) showed the sickle-cell trait. The Kurumbas and Irulas are regarded as nearly related tribes, but the Paniyans, who live in a very malarious region and have marked Australoid features should, in the writer's opinion, be recognised as differing markedly from the Kurumbas, though some of the latter, as remarked earlier, have acquired broad noses through mixture with tribes (perhaps Paniyans) having Australoid characters.

From much later work with sickle-cells it appears that heterozygotes for this gene are more resistant to malaria, the S-haemoglobin being more insoluble. This mutation is therefore an adaptation which increases the resistance to malaria, and it has thus probably arisen independently through natural selection in different malarial regions. The gene can be transmitted by race crossing from tribes living under malarious conditions to those inhabiting non-malarious areas, but it would probably be there subjected to a measure of counter-selection because the insoluble Sickle-haemoglobin will be physiologically less efficient than ordinary haemoglobin. Only 16 Kurubas were tested, three of whom had sickle-cells, so it is possible that the frequency of the S-gene is lower in them than in the Paniyans and Irulas in whom it is very high.

Buchi (1955) found 16.87% of sicklers in 83 Kurumba of Nilgiri and Wynnaad and 29.73% in 74 Paniyans, confirming Lehmann and Cutbush. But Buchi found no sicklers in a series of tribes such as the Malapantaran and Ulladan of Travancore and the Kadar of Trichur District. Lehmann (1954) found no sickling in 128 Tamils of the Nilgiri District, while Buchi found only 0.9% in 112 Pallar of the Tinnevelly District. This shows that the sickle gene is not universal in the Veddids (Australoids) but is apparently confined mainly to malarious areas, spreading to a limited extent in other tribes by race crossing. Since Lehmann (1954) found no sickling in 68 Andamanese, who live under malarious conditions, it is necessary to assume that the sickle-cell mutation has not occurred in these isolated islands.

The Badagas and Todas of the Nilgiris were also found by Lehmann and Cutbush to have a much lower incidence (4.8%) of the sickle-cell trait than the above tribes. This may have been acquired through crossing. Fürer-Haimendorf (1954) describes a

system of hereditary friendships between the Todas of the Nilgiris and the Mudugas and Kurumbas of the Walavanad Taluq which accounts for a limited amount of miscegenation. The village headmen of these tribes have traditional Toda friends whom they visit at least once a year for several days or a fortnight. The visitor assumes the roll of husband, and Muduga women are similarly visited by Toda brothers. This institutionalized sexual intercourse or mutual wife-lending, forms of which are also known in other parts of the world, could account for the 4 % of sickle trait in the Todas, but the Mudugas have apparently not yet been tested. There is evidence that other, unformalized, cases of miscegenation do occur notwithstanding the caste rules against it.

Blood Groups

The blood groups furnish important evidence regarding racial relationships. Many different tribes and populations have been tested in India. The results in Table III have been taken mainly from Mourant's valuable (1958) compilation of the ABO. The first two lines of the Table are both aberrant, apparently owing to the small numbers. The Nilgiri Kurumbas tested by Buchi (1959) are most likely to be representative. They are very low in A and somewhat higher in B, and the Uralis are not very different.

Lehmann and Cutbush (1952) have recorded (Table III) the blood groups of Nilgiri tribes as well as the Paniyans of Wynad. There is quite a wide difference in the two sets of Toda results, but a still greater difference between Todas and Kotas. These two tribes are undoubtedly nearly related in origin, yet the Kotas are very high in O and have no A (in 86 persons) whereas the Todas have 15-20 % A and much lower O. On the contrary, the three tests of the Paniyans (Table III) from the Wynad plateau at the foot of the Nilgiris are extraordinarily similar, especially as regards the extremely high A and the very low B.

Buchi (1959) has calculated (Table IV) the gene frequency for O, A, B and M, together with the sickle-cells and the non-secretor gene. Vos and Kirk (1961) have recently shown that the Diego blood group, which is found in all peoples having Mongoloid ancestry, is not present in the Kurumba or Irula, but occurs in 6 of 125 Oraons tested.

Buchi (1959) concludes, rightly I think, that the Kurumba, the Vedoids (which I would prefer to call Australoids)³ and the Toda-Kota are separate stocks in India. Although the high

³From a study of Warner's data taken in 1927 on the Australian aborigines (Howells 1937), significant differences were found between natives of the N.W. and N.E. the latter being "somewhat stunted." The head

TABLE III
ABO BLOOD GROUPS

	N	O%	A	B	AB	AUTHOR
Jene Kurumba, Wynaad	17	47.1	47.1	5.9	0	Sarker 1954
Vettu Kurumba, Wynaad	17	11.8	11.8	70.6	5.9	Sarker 1954
Mullu Kurumba, Wynaad	80	63.7	10	25	1.3	Sarker 1954
Kurumba, Nilgiri	116	57	17	27	0	Buchi 1959
Urali Kurumba	107	45.8	24.3	25.2	4.7	Bose 1952
Todas, Nilgiris	200	29.5	19.5	38	13	Pandit 1934
Todas, Nilgiris		82	12.2	14.6	54.9	18.3
Kotas, Nilgiris		86	60.4	0	39.6	0
Irulas, Nilgiris	117	31.6	25.6	29.5	12.8	Lehmann & Cutbush 1952
Badagas, Nilgiris	64	51.6	20.3	25	3.1	
Paniyans, Wynaad		61	19.7	62.3	13.1	4.9
Paniyans, Wynaad	250	20	62.4	7.6	10	Aiyappan 1936
Paniyans, Wynaad	313	22.4	64.2	7.7	5.7	Sarker 1954

TABLE IV
GENE FREQUENCY, AFTER BUCHI

	O	A	B	M	SICKLE	NON-SECRETOR
Veddoids	56	26	18	74	18	—
Karumba	57	17	27	78	9	47
Toda-Kota	59	8	33	80	2	33
Dravida	61	15	24	60	0	—
Pallar	59	17	25	59	1	51

measurements of Australians and Veddas (Ceylon) were found to be much the same, but the Veddas were short (mean 156.7-158.8cm against the Australians' 170cm). The following mean measurements were also recorded. The most marked differences are in the greater height, broader noses and greater bizygomatic width of the Australian aborigines.

	VEDDA (HOWELLS)	AUSTRALIANS	VEDDA (HILL)	N
Stature	156.7-158.8	170	151.5cm	32
C.I.	72.31	73	72.67	26
Bizygomatic	120.87	140		
Nose Height	46.07	49		
Nose Breadth	38.78-40.8	47		
N.I.	84.18	98	Cranial Index 71.6 (44 male, 18 female)	62

The results of Osman Hill (1941) (cranial index of 44 males and 18 females) are taken from his important paper on living Veddas in Ceylon and skeletons in museums.

frequency of O (56-61%) is very similar in all, A ranges from 8% in Toda-Kotas to 26% in "Veddoids." The B gene shows the reverse relationship, from 33% to 18%. Buchi suggests that the Kurumba live in the contact zone with Toda and Kota, and that race-crossing has modified them. This is undoubtedly true of those that are less isolated. Those with broad noses have probably crossed ancestrally with the Australoid Paniyans. Buchi tested 85 males and 26 females for colour-blindness, using the Ishikawa Tables, and found them all normal. Those with narrow noses represent the small-featured Indides who presumably came originally to South India from further north. The southward push of tribes in the Indian peninsula, which appears to have been occurring from the earliest times, seems to correspond with the southward migration of tribes in Africa.

Thurston (1909) has recorded the stature and nasal index of three groups of Kurubas (Table V).

TABLE V

	STATURE	N.I.
Kurubas (Mysore)	163.9	73.2
Kurubas (Bellary)	162.7	74.9
Kurubas (Nilgiris)	157.5	88.8
MEANS	161.3	78.97
Paniyans	157.4	95.1

It will be seen that the Nilgiri group measured had the shortest stature and much the broadest noses. By contrast, the Paniyans were shorter and still more platyrhine.

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The Forest Officers, who are closely in touch with the native tribes, were of great assistance in connection with my journey in South India. Mr Manamohan, the Forest Range Officer stationed at Begur, Mysore, went with us from Karapur and helped us to find the Kurumba villages. The most generous co-operation was everywhere experienced.

Summary

In this account of the Kurumbas or Kurubas (the terms are interchangeable), references are also made to the other tribes of the Nilgiri Hills, Todas, Kotas, Irulas and Badagas, who live under

various conditions of interrelationship. Glimpses of the Kurumbas (Curubaru) are given in various works published early in the 19th century. They show that the tribe has undergone many changes and vicissitudes. They finally practised the most decadent phases of the megalithic culture formerly widespread in India.

Their 19th century occupation was (a) as shepherds and weavers or (b) as collectors of honey and other forest products. But they are credited by history as descendants from the Pallavas, who dominated South India from A.D. 550-750, reaching their zenith in the 7th century. Their language was Tamil, and the defeat of the Pallavas in the 8th century led to the Kurumbas being widely scattered. They lost their civilization and were forced to revert to jungle life. This history of particular tribes in India appears to have happened more than once; under defeat they relapse to jungle life.

In physique, the Kurumbas appear to be mainly of Mediterranean type, with relatively small stature (153.7 cm. in the male), mesocephalic (C.I. 74.7), with small features, leptorrhine, with very wavy and curly matted hair. They are *Indides* in the terminology of Eickstedt; but it appears preferable to confine his term Veddoids to the Veddas of Ceylon, using the term Australoids for the platyrhine tribes in South India. Some Kurumbas have acquired platyrhiny by crossing with Australoid tribes. Some have even been classed as Negritos, but this would deny their South Europoid origin and the many differences involved. They are not so short as the Kadars (who have frequently been classed as Negrito)⁴ and their hair, instead of being closely curly, shows a mixed form of waviness and curliness.

Lehmann's important discovery of the sickle-cell gene in South India, together with later work on its relation to malaria, can probably be best interpreted as an origin independent of Africa, the gene involving a form of adaptation to malarial conditions in both regions. In the Paniyans and Irulas the high frequency of 32.4% was found, while the few Kurubas tested gave a frequency of 18.7%, the Todas and Badagas having 4.8.4%. Sickling was not found in the Kotas and other tribes of South India. The broad noses of some Kurumbas were probably from crossing with Paniyans, and the sickle-cell gene may have been derived from the same source. The Kurumbas (and Mudugas, not tested) may have passed it on to the Todas. Racial intercrossing may thus account for a low percentage of the sickle gene in some tribes of South India, but the gene probably originated adaptively in India quite independently of the African origin.

The blood groups of the tribes in the Nilgiris and Wynnaid are

⁴For a discussion of the Negrito "race" see Gates (1961).

also considered (Table III). The Todas and Kotas, although evidently nearly related and probably derived from a common stock, yet differ widely in blood groups, the Kotas having a very high frequency (60%) of O but no A, whilst the Todas have 12-30% O and 15-20% A. By contrast, the Paniyans, in whom 624 individuals have been tested by three different men in the period 1936-1954 gave remarkably uniform results, with 63% A, 9.5% B and only 20.7% O. Thus the Kotas and Paniyans agree in having the extraordinarily high frequency (60%) of A, but there is nothing else to suggest the remotest resemblance between them. This shows that the blood groups cannot be used alone, regardless of other differences, to draw conclusions about racial relationships.

The conclusion appears justified that the Kurumbas, Toda-Kotas and Paniyans are of separate origin and history but have undergone some miscegenation in recent times. Further studies of both sickle-cells and blood groups are necessary to throw more light on these relationships. Other blood group tests are not yet sufficient to be used in comparison of these races.

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BIOGRAPHICAL NOTE



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Somatopsychical Structures in Human Races

BY HANS BURKHARDT

In the July 1960 issue of *THE MANKIND QUARTERLY*, Professor Henry E. Garrett dealt with the race psychological examinations made by Otto Klineberg, Social Psychologist of Columbia University. Klineberg, in concluding his examination, used these words: "The scientist knows of no relation between race and psychology." Garrett referred to the insufficient evidence which Klineberg gave, and to the wrong or one-sided conclusions of the evaluation of Negro-white differences in mental tests. In connection with this review it will be possible to place the objections against Klineberg's generalized proposition on a much broader basis. We believe that we may take it for granted that the results of scientific examination on the essential points of this subject have been anticipated by the very formulation of the questions. For, if the social psychological problems are the centre of interest—as is the case with Klineberg's examination—light will be thrown nearly exclusively on environmental peculiarities, while genetic factors will remain obscured. It will then be easy to show that possibly all the differences between men are conditioned by environmental differences, and it will be easy to support this thesis with many exact details. It is just as easy to show that possibly all differences between men are genetically conditioned, by directing the attention only towards the character of a man's ancestors and his innate constitutional characteristics.

In reality there is much truth in both aspects. However, the scientist fails in his task when he tries to disprove one aspect in favour of the other. It should not even be his task to estimate and perhaps state in figures the relative strength of the various factors which form a man—how much influence is owing to the environment here and to the hereditary presuppositions there. For this is indeed a matter of quite unequal factors—it is in a way a matter of two dimensions of human nature. Our language does not give us any direct possibility of demarcating these two dimensions with an unfailing precision. When we often overlook one of the

two dimensions, because we cannot always grasp it or define it, this should not allow us to conclude that it is without importance.

I will try to make this clear by referring to the difference between the two sexes. Apart from the primary genitals, the physical habitude of man and woman is distinguished in so many details that neither the vocabulary of the scientist nor that of the poet will suffice to include them all. But it is much more difficult to state fairly exactly the differences of the psychical habitude between man and woman. It is our task here to say something about the *genetically conditioned* differences of the psychical habitude. For, as is well known, the sex of a human being is genetically determined, all primary sexual features being anchored in the X and Y chromosomes. When directing attention to sociological relations, it is not difficult to show that many differences between man and woman evidently are conditioned by institutions which date from past times, by traditional views about the part and the task of the woman here, and of the man there, in human society. However, are we to believe the sociologist if, after showing us all these facts, he then says: "because man and woman do not find the same sociological conditions, differences between the sexes which are not determined by the environment are not provable"? Should we believe him when, after bringing before us many exact figures and statements about the IQ of both sexes, he finally concludes: "the scientist knows of no relation between sex and psychology"? Indeed nobody can doubt the truth that the two sexes are two biological variants of human existence, apart from different dispositions also with respect to psychical nature and conduct. From the earliest age the woman in the typical case is different from the man in every emotion, and in these differences are already expressed different psychical dispositions, possibilities, feelings, and endeavours.

The reason for referring to the difference between the sexes is because we have here a simplified, model case for the mutual connection between certain physical and certain psychical, genetically conditioned, structures. It is needless to ask whether psychical features are embedded in the genes. The physical features are anchored in the genes, and they directly and inevitably influence the psychical conduct and habitude.

Our model case also refers us to other connections of importance for us. Generally man and woman are only different with respect to the specific physical and psychical characteristics bound to the sex. With regard to all other predispositions man and woman may be very different or they may be very alike. As, however, these other predispositions are entwined with the predispositions of the specific sex character, it is very difficult—and in the psychical field twice as difficult—to see and explore the isolated specific

characteristics. We must know from the very start that they affect the whole physical and psychical structure. The woman, if we may be allowed to say so, personifies another mode of human existence than the man. In an absolutely comparable way, as will be shown in the following, a certain type of constitution and certain racial specific characteristics can be determining for different modes of human existence. (But it should be mentioned that the sexual difference is exceptional in so far as—by the way in which the sex chromosomes are transmitted, except in pathological cases—there is no mixture or weakening of the differences, but for each individual only an *either* or an *or*).

These suggestions may so far be sufficient in connection with our subject. Nevertheless I want to refer now to another field of research, which indeed does not quite directly contribute to the psychology of races either, but which can help to explain the basis and ideas involved. This is the field of constitutional research. In connection with the efforts which have been made in order to examine the relations between build and character, the results of Ernst Kretschmer in Germany, and those of William E. Sheldon in America, have become very well known. Both agree on essential questions and can rely on rather exact anthropometric material, physiological experiments and psychological tests. We will only point out the things about which they agree. They can show that men with heavy, athletic build have a comparatively slow psychical rate and little adaptability, but often great energy and firmness. They can show that men with round and weak build are distinguished by an extroverted and sociophile character, by contactability and adaptability and a very relaxable nature. Men with slim stature are preferably touchy, sensitive, but at the same time sociophobe men, who face life with inhibitions and tensions—also such are of a very productive kind. Finally both these scientists recognise a group of physical dysplastic-constituted men, where, in the typical case, psychical disharmonies—or at any rate very extraordinary proportions of psychical endeavours and abilities—are also provable. Thus the types of constitution present themselves as various bases for the physical and at the same time the psychical structure of the man. At the same time, however, these bases ally themselves with many physical and psychical characteristics which independent of them can show every imaginable difference in single individuals of the same constitutional type.

It is, however, important to state that these bases are biologically founded and essentially genetically conditioned. Here therefore the proof that certain physical and psychical features belong together is especially convincing, as in this case the sociologist has practically no possibility of employing his theories. The various constitutional types are to be found among all peoples and in all social

classes—one type is not favoured in preference to another by better environmental conditions. The science of constitutional types thus gives us at the same time the best arguments for the importance of heredity for certain components of the psychical habitude.

Certainly, as already explained, there is no direct bridge from constitutional research to racial psychology. Numerous examinations in quite different climates and continents have resulted in the fact that the known constitutional bases are not restricted to certain races. Perhaps every culture needs these various types; perhaps here also we have variants of human existence which are complementary to each other in an ingenious way, each of them pointing to another particular direction of human possibilities. At the same time, however, each of these constitutions shows weak points and a critical one-sidedness, as if nature could not present a completely happy constructional model of mankind. Here, however, with the constitutional types, an important function has to be awarded to the continuous interbreeding of one with another, whereby one-sidedness may be counterbalanced.

Obviously, however, the nature and character of the constitutional type—which is independent of the environment—is not at all independent of the other hereditarily determined structures. Again the sexual differences present themselves as an example. We know the same constitutional types in both sexes. But, for instance, the athletic type in its classical form will only be observed in the man, whereas in the woman the characteristics of this type will only appear in a varied and broken form. According to their original tendencies, two independent biotypes are inter-acting together—either in competition with each other, or strengthening each other.

In addition, a third, the racial type, joins these two biotypes. The relations between the constitutional type and the racial type are not only of a negative kind. There is no doubt that certain racial specific structures may emphasise a certain constitutional type, while others may have the reverse effect. Put in another way, it may be said that we are finding different accents with the various races and strains. But it is still more important for us to maintain that certain physical and certain psychical characteristics and dispositions within each of the three biotypes mentioned represent a unity. Within the field of animal breeding acknowledgments of this kind are natural. When crossing horses no breeder would be guided by the absurd idea of combining, for example, the rough skeletal structure of the heavy cold-blooded race with the nervous temperament of the thoroughbred race. These two things cannot be separated. On the level of the biological sciences, body and psyche, generally and with regard to all single features, are two sides of the same thing.

The attempt to perceive the characteristic structures of the various races more exactly than hitherto first of all presupposes that we are bringing well characterized races or strains in all continents into our field of vision. It is true that anthropology has gathered a very large body of observations, but the task of sifting this material has certainly not been completed. As there are no absolutely fixed racial limits, and probably never have been, since there are rather certain strains with some specific physical-psychical characteristics within each larger racial group, it would perhaps be best if our first step were to divide the many structures which are typical for one large racial group into single structures which perhaps to a large extent are independent of each other. Of course it is not at all the case that two different races are different in all hereditarily conditioned structures. Certain structures may be common, others may show the most manifold variations. Apart from the fact that many predispositions are common for all races, nobody can stipulate whether a certain race is characterized by many or only by some few predispositions of a special kind. (It is a matter of definition whether a group for which only some few characteristic features are specific can be called a race, or better a strain.) After this introduction we will try to give examples for certain structures, which not alone, but in association with other structures, are typical of certain races. We have to thank the well known German anthropologist E. von Eickstedt for many insights in this direction, as well as F. Keiter, who has contributed many points of view by his examinations of culture and race.

Let us begin by referring to structures which seem so closely related to certain characteristics of the well known constitutional types, that indeed with some races, racial type and constitutional type point in the same direction—whereas other races present a large range of variations. Thus, we know of pronouncedly slim and pronouncedly square-built racial types. We may say that for the slim racial types a cooler psychical temperament is characteristic, a stronger sense of distance and of style of conduct, and further also more sense of movement than of settlement. As an extreme case of an extraordinarily slim race the anthropologists describe certain Hamitic cattle tribes of Ethiopid race in North Africa. The slim racial type with slim head on a free neck, narrow hips and long limbs has at all times been regarded as an aristocratic type¹—but one-sided specialized racial types often show limitations of the psychical life.

¹ Which is, no doubt, due to the fact that tall races, which tend to have an advantage in war, have very frequently contributed largely to those conquering tribes and peoples who gave rise to aristocracies when they overwhelmed other stocks.—EDITOR.

When we talk about heavy and light tribes and races, we are keeping another difference in view regarding the constitutional and psychical habitude. No doubt this difference is connected with a different kind of motoric and dynamic. With the light type we find activity, high speed, a light hand and often an agile spirit and a free elegance. With the bulkier type the heavy spirit also determines the psychical life. The inclination to be static is stronger than the need for movement and change. Within Europe the light type is more frequent in the coastal regions of the South as well as in the North, and the heavy type in the continental regions.

Another difference in structure, similar to that just mentioned, but yet in another way distinct, is found when we distinguish races and strains as large or of a more delicate stature. To the first mentioned type belong large hands and feet as well as strong lower legs and a coarse-pored skin. That this difference in stature is of importance in connection with the psychical habitude can already be seen with races of animals. Large dogs have a different behaviour and character from that of small ones. Among most of the primitive peoples known by us today the fine—that is not tall—type is predominant. In the European regions certain Mediterranean types are particularly fine. We find such pronounced graceful forms within the Indian racial type.² A further example of this fine type of constitution gives the Japanese people its character. Rather regularly it can be stated that men of the fine type show quicker reaction, whereas the contrary type is more dignified and reflecting in behaviour. It would be possible to demonstrate with many examples that every type of man is inclined to form the world surrounding him after his own image. For instance, the Japanese love the fine forms of manners and things, while all that the men of Central and Northern Europe love to have around them seems gigantic and clumsy by comparison.

Important connections become visible when we try to distinguish between races with strongly and faintly differentiated and segmented build. Strong differentiation means that limbs, trunk and head are well shaped and distinctly demarcated from each other, and that the forms of the face—especially the orbits and the root of the nose—are strongly chiselled out. The strongly formed face gives the impression of forms which have been chiselled from within and outwardly. The contrast is shown by the Mongoloid face which, with reference to the Huns, was described long ago by a Roman writer as appearing as though some faint impressions had been pressed into a clod of clay. A strong differentiation evidently coincides with a strong accentuation of individuality. The individual in such cases stands out from his surroundings. His own life and

² Which is also, in a large measure, Mediterranean.—EDITOR.

character are opposed to the outside world in an accentuated way—subject and object are confronted. Solid psychical substance and stabilized feeling of individuality characterizes this type of man. This does not mean that the less thoroughly formed and profiled races have smaller possibilities of development of the spiritual life. The old high cultures in East Asia, essentially associated with men of the type which is not very profiled, point in the opposite direction. Here the physical and psychical types are adapted to integration. Together with the more fluid psychical contents, the feeling of reciprocity and of universal harmony comes to have influence. Nevertheless, it is true to say that the strongly formed and demarcated—such as the human figure as a subject of art—has been neglected in Eastern Asia compared with the European regions. As the man understands and represents himself, so he is basically in his character.

It is also worth looking at the difference between a more coarse and rough and a more refined form of details in the human races. Where coarse and rough forms are predominant, the psychical life is a little weaker and is poorer in finer perceptions. Certainly it is self-evident that a stronger accumulation of the psychical forces can be to the benefit of power and extroversion. Strongly differentiated features express a fine graduated self-consciousness, a greater psychical selectivity and polyphony. In Europe the Dinaric racial type, which is to be found in mountainous regions, especially in the Balkans, has much more coarse forms than for instance the Northern European type. The constitution is coarse, athletic, the nose is rough and big, the skull is steep, the lower jaw is long. Skin and hair are also of a coarse nature. At the same time it is quite clear that the psychical life is not so differentiated as in the Northern European regions. There is no doubt that the pituitary gland has an influence on such characters, so that with different races we get differently developed characteristics.

We are approaching another polarity which can be essential for the collection of typical racial features when we distinguish between a dry and a moist type. Here we may assume especially close relations to the climate and the soil. Anthropologists know the thin, dry and sinewy desert type, bred in acclimatization³ to drought and steppe. They know, in contrast to this, the often plump or spongy types found in the more moist regions. In typical cases, dry, thin men show a certain narrowness of the mental life, and not seldom a fanatic toughness. Plump men have a more broad and fluid mentality and a softer and more restrained emotional life.

Finally, expressed in a more generalised and therefore slightly

³ Strictly speaking, it is not so much acclimatization as adaptation.
—EDITOR.

risky manner, it can be said that a human type whose mental life tends to be turned outwards and to be more transparent in its psychical emotions can be distinguished from another type whose mental life is less extroverted and less transparent. Chiefly it is a question of differences in sensibility, of the degree of accessibility to impressions of all kinds, of the vivacity of the involuntary means of expression. The psychical conditions appear naturally and spontaneously in the physical conditions. This is perceived in the change of the blood distribution, in the interaction of the sympatheticus and parasympatheticus in the expression of the eyes, and in many physiological processes which tend to become visible in the skin. The increased thickness of the skin sees a diminution of the increased sensibility to which we have already referred. Here we see the close connection between the nature of the skin and the psychical aspects of life. Relations to the climate, to the original homes of certain races and tribes are here again distinctly indicated. Men in warm countries and in those with maritime climates are more sensitive, and in this connection more lively in their expression, than men in colder and more continental regions. Especially we may mention here the races of Central Asia, which are bred on the facility to develop insensibility, toughness and the capability to endure suffering. According to available examinations, the Mongoloid type also is predisposed to a reduced metabolism, which, as is well known, is dependent on the function of the thyroid gland. Thus a whole number of physiological characteristics are probably involved. The racial type in Northern Europe is characterized as a sensitive human type by the nature of the delicate and light skin. The association of this sensitive type with the physical traits can be most clearly seen in the reactions of the light-blond, and particularly in the case of the red-haired, delicate-skinned men. When we hear that colour of skin and hair of the various men has nothing to do with the psychical nature, we can be sure that such statements miss the point altogether.

Interesting perspectives open when, in addition to all this, we look at the fact that some races are highly specialised—that is to say, they are adapted to very specific surroundings—whereas others are to a very high degree independent of their surroundings. Generally we can observe that the races which are highly specialised in their physical conditions are also limited with regard to their psychical possibilities. As examples of adaptation to a very specific landscape and a very specific form of life, anthropologists mention the Hamitic nomads of Ethiopid race, and also the Samid race (Bushmen type). In a most unambiguous way the last mentioned type has been bred for a life in the dry sandy regions of South Africa. Races of this kind easily get into a blind alley with respect to their possibilities of development. It is well known that

the special biological advantages of the *genus humanum* lie in the fact that man, in quite a different way from the animals, knows how to make himself independent of specific surroundings. The human types which have followed this direction longest have of course the best chances of spreading. Here first of all most branches of the Mongoloid races have to be mentioned. Thanks to a special adaptability of the more passive kind, they can assert themselves in the most widely differing zones and surroundings. Von Eickstedt refers to the fact that with this racial type even the skin is especially suited to acclimatization in all zones of the world. According to their psychical habitude they are highly docile and able to learn. Quite other, indeed nearly opposite, physical and psychical abilities have enabled the men of North European origin likewise to disregard all specific surroundings. Here it is not really the ability to suffer the surroundings as they are, but the ability to interfere actively, to form the world and to continue to invent new possibilities, and so dominate over the environment.

The science of anthropology is very familiar with the observation that there are races which have more primitive features and others which have more progressive ones. Primitive are all those morphological features which are closely similar to those found in the Anthropoids. To these features, as is well known, belong the narrow, coarse-boned skull with retreating forehead, retreating, only slightly formed chin, deep root of the nose and broad enlarged wings of the nose, long arms and slim form of hands and feet. The The Australid race shows characteristics of this kind most clearly. The Negroid racial branch has become removed from the original type with regard to many features—for instance, simple form of skull and thick lips. Exact observation shows that in each main race some features of an original kind have been connected with other, progressive, features in a different way, so that it is impossible to range the races in a single row between the poles of primitiveness and progressiveness. However, it seems important to us to state that primitive features of a psychical kind are always to be found connected with many primitive morphological features. Here the short curve of psychical reactions, the spontaneous surrender of the affective life and the early closing of the mental maturity have to be mentioned among the primitive characters. Progressive human types, on the other hand, keep their faculty for learning longer and gain a greater distance to the world in which they live.

Not identical with primitiveness is the physical and psychical infancy which—within the limits of the norm—is characteristic of some races. We find it in the Pygmy races in their regions of retirement from the main areas of human settlement in Africa and South East Asia. These races are, however, not all like the original forms from which they have been derived. They are much more to be

regarded as a human type which has been driven into a by-way. They are characterized by childlike round and simple forms, a strong lordosis of the spinal column, and a relatively large skull with a distended forehead. Their psychical type corresponds to the morphological one. These people are described by all observers as being shy of strangers, but cheerful, naive, carefree and good-natured.

Surprising perspectives are opened when we look at features of partial infantile character in the otherwise absolutely progressive races. Lately great attention has been paid to the fact that anthropoid apes in their childhood are much more like men than grown-up apes. In a way, in the origin of mankind, nature made use of a trick by retaining some infantile features much longer, and others for life. Man only becomes a man thanks to his much prolonged childhood, which is due to his much prolonged faculty of learning. We know that men who have the gift of the highest capacity for thinking and imagination, especially the geniuses, are nearly always characterized by some childlike features. Within certain limits this is undoubtedly also true for such races which are especially capable of development. With the North European type of man it is perhaps the deficiency of pigment and the nature of the skin which points in this direction.⁴

Finally we may refer to the fact that in some cases neither is the sexual difference, as shown in the formation of the masculine and the feminine type, quite independent of the racial type. We know that there are some races which are more masculine and others which are more feminine accentuated. With this the circle of our observations is closing. We know that the constitutional types are not directly dependent on the racial type; we may observe, however, that in many ways they can be varied by the racial type, here fortified, there weakened. We know still more surely that the sexual difference according to its character is independent of the racial type. We also see here, however, that the racial type can stress or weaken certain structures. Very virile races which we can obviously find in mountainous countries—again we may refer to the Dinaric racial type—have firmer, harder constitutional forms, a coarser skin and a strong accentuation of nose, lower jaw and chin. The big, convex nose especially may be considered as a virile morphological feature. With regard to their psychical structure, men of this kind are more rough, harder and finished. The will-life is predominant. A more feminine accentuated physical and psychical habitus is characterized by physical-mental maturity, by openness and comprehensive integration. Here all forms are softer and more

⁴They are certainly quite late in development compared with the Melanoid races.—EDITOR.

balanced. Wise Chinese have referred to the fact that the Sinid type is the highest developed type among the Mongoloid races, and that it shows features which point in this direction.

All the examples and observations mentioned here cannot be much more than the beginning of the attempt to understand and define somatopsychical structures conditioned by the races. At any rate they show us that the differences which we find between the races and strains are to be valued positively. But these differences do not in any way create the basis for a dangerous phenomenon of racial hatred any more than, equally absurdly, does the knowledge of the fact that there are different constitutional types lead to, or justify, the creation of a doctrine that certain constitutional types should be promoted and others should be oppressed. Racial types differ in one important respect from the constitutional types which we have been discussing. Each racial type is the result of selection through the influence of certain conditions of life during a very long space of time. Each race has had to assert itself in the course of a very long time and consequently it presents a lucky balance of characters. We must realise that men as such are a chance experiment of nature. The races of men are not as clearly defined as are the divisions among the animals. Race is all the time threatened by splitting tendencies. However, each race of clear character with respect to its physical and also its psychical traits shows a natural firm hold and appears to us as a convincing unit of the two elements which are so often diverging in men, that is as a unity of nature and spirit. In this, race presents a difference from the constitutional types in a more restricted sense. As mentioned before, these seem to be directly predetermined to continue to interbreed. As in the case of each of the constitutional types the way to pathological extremes is not very long—the balance is supported by the mixture. We are not however entitled to say the same thing about the interbreeding of races. All considerations and experience cause us to be cautious and critical towards all tendencies which promote haphazard race mixture, although it may be that in many single instances interbreeding of certain racial strains may have favourable results. Of course racial types which do not differ in many hereditary predispositions have interbred as long as mankind has existed. Both the separation and the mixture of various human strains have at all times alternately contributed their part to the forming of human appearance. But while this is so, may we dare to promote mixture as long as there are means to omit it in agreement with humane thinking? We will answer 'no' to this question when we consider that this interbreeding is a development which we can on no account reverse. It must furthermore be remembered that racially conditioned characteristics of a physical and psychical kind, once lost, will be lost for ever.

OUR CONTEMPORARIES

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THE EUGENICS REVIEW

Journal of the Eugenics Society, 69 Eccleston Square, London, S.W.1. Price 5s.

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Vol. LIII, No. 1, April 1961.

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PRIRODA (NATURE)

A scientific bi-monthly periodical for Knowledge of Natural History. Published by the Bulgarian Academy of Science. Editor-in-Chief, Academician A. I. Hadjiolov.

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THE PSYCHOLOGICAL RECORD

A quarterly journal in theoretical and experimental psychology. Published at Denison University, Granville, Ohio. Editor Irvin S. Wolf. Annual subscription \$4.00.

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Journal of the Italian Committee for the Study of Population Problems and of the Italian Society of Eugenics. Editor Corrado Gini, Via delle Terme di Diocleziano 10, Rome, Italy. Price 3000 Lire; U.S. \$6.00.

Vol. XVI, Nos. 1-4, December 1960.

Cultural Selection of Human Psychological Types, by Robert Kuttner; A proposito di una nuova Opera sui Vichinghi ecc, by Corrado Gini; Rural-Urban Demographic Differences in Latin-America, by T. Lynn Smith; Le caratteristiche demografiche di un gruppo di Zulu (Bantu) della Riserva indigena di Mapumulo (Natal), by Placido Nicolichchia; Le caratteristiche demografiche di un gruppo di Albanesi di Kavaja, by Placido Nicolichchia; The lost Battleground of the long sault, by Thomas E. Lee; Rassegna—Sulle differenze innate tra i caratteri mentali nelle varie popolazioni, by Corrado Gini.

PLAINS ANTHROPOLOGIST

Journal of the Plains Conference. Published by the University of Oklahoma, U.S.A.

Vol. VI, No. 11, February 1961.

Some Materials on the Assimilation of Oklahoma Indians, by I. A. Zolotarevskaja; A Survey of Paleo-Indian Sites along the Middle Rio Grande Drainage, by George Agogino; Theories of Culture Change Relevant to the Study of the Dakota Indians, by Vernon D. Malan; Cultural Persistence and Cultural Change as reflected in Oklahoma Seneca-Cayuga Ceremonialism, by James H. Howard; Mesquakie Witchcraft Lore, by Eugene Fugle; Reviews, etc.

Book Reviews

ISSUES IN EVOLUTION: VOL. III

Edited by Professor Sol Tax. University of Chicago Press:

Cambridge University Press, 1961. Pp. 310. Price \$7.50: 60s.

This is Volume III of the work *Evolution After Darwin*, edited by Professor Soi Tax and produced in connection with the Darwin Centenary Celebration at the University of Chicago. For this celebration nearly fifty scientific men from ten countries were brought together, representing the inorganic, life and human sciences. The first two volumes contain the papers, distributed in advance, which were presented at the meeting, containing practically the whole range of modern evolutionary conceptions in the sciences. Volume I deals with *The Evolution of Life*, and Volume II with *The Evolution of Man*.

To the prestige and distinction of this Celebration is added Volume III, which is a sort of quintessence distilled from the first two volumes, as in it the many present evolutionary problems are freely discussed. Three introductory chapters on Evolution and Religion include a luminous account of Chinese religions by Professor Ilza Veith and another on the Catholic point of view.

A unique feature of this book is the series of five panel discussions held during the celebrations and here reproduced verbatim. The subjects of these panels were the origin of life, the evolution of life, man as an organism, the evolution of mind, and social and cultural evolution.

The participation of Sir Charles Darwin and Sir Julian Huxley, grandsons of the original progenitors, lent éclat to the proceedings.

Under the stimulating chairmanship of Harlow Shapley, ten questions concerning the origin of life are discussed by a panel of nine biologists.

The first of these questions was: Did the early conditions on earth favour the accumulation of organic substances? The last was: When and how did the change from anaerobic to aerobic conditions occur? During this discussion Muller defines the beginning of life, not with the origin of protein, but with the coming together of chains of nucleotides. Darwinian natural selection began at that stage, during which the nucleotide chains are gradually improved in pattern and increased in complexity until the human chromosomes contain about four billion nucleotides in line. The polymerization of proteins, the production of enzymes, the appearance of chlorophyll and haemoglobin, and many other essentially biochemical problems of early life are involved.

The second panel, largely different from the first, discusses the evolution of life, under the chairmanship of Sir Julian Huxley and Professor A. E. Emerson. Recognising evolution as a fact rather than a hypothesis, sixteen set questions are deliberated, from the mechanism of evolution to the rise of new types and the dynamics of populations.

The third panel, which considers the evolution of man, is of more specific interest to readers of this journal. With G. G. Simpson and F. Clark Howell as chairmen, the subject is elucidated under the headings of genetics, ecological and development factors, various "trends," and the

present and future status of man, both physical and cultural. Leakey and Howell contribute much on fossil primates and early man, Emiliani adds much on the age sequences, Rensch discusses the "laws" of evolution and the development of the forebrain. Waddington contributes the important conception that the human baby must begin by *believing* all it is told, doubts only arising later. He also points out that human drives (instincts) always conflict with "free will."

The last two panels are also of great interest to students of human evolution. Huxley follows with an address on "The evolutionary vision," and Tax concludes with an account of how this very successful celebration was organised. Every biologist would gain much from reading this volume.

R. R. G.

JEWISH THOUGHT AS A FACTOR IN CIVILIZATION

By Léon Roth. UNESCO, Paris. Pp. 64. Price \$40: 2s.

This book is published in a series, the names associated with which are notorious as persons who in some cases know next to nothing about race, but have no hesitation about writing upon it, and tend to have an entirely subjective point of view.

The preface calls those who speak of Jewish racism as Anti-Semites. This appears to be a strange charge, and rather suggests that while it is proper and fitting to castigate any racial or ethnic groups as *racist*, it is a crime to suggest that the Jews can possibly be *racist*, and one which merits at once the charge of anti-Semitism. Now the present reviewer cannot be charged with being an anti-Semite, as never has he written against the Jews, and yet the one conclusion which he has drawn from the whole purview of Jewish racial history is the fact that the Jews have held together, and acted together, on basic assumptions which are racialistic. Their segregation—even to worship, a separate Sabbath, different food—in every way is a complete form of Apartheid, and if one adds to that the aspirations for Zion—with all its connotations of worldly dominion—which have activated Jewry throughout the ages, one can clearly see that its aspirations have not been any different—in these respects—from those which have actuated the other racial and ethnic groups of the White Races.

It therefore seems to us to be sheer humbug on the part of the Editor to write in the Preface:

"The series to which this booklet belongs has, as its subject, the race question as seen from the standpoint of the main currents of contemporary thought. It will, in particular, comprise studies defining the attitude of the great world religions towards the physical differences by which humanity is characterized.

In such a survey, the attitude of Judaism cannot be overlooked. It would have been logical to include in this series a booklet entitled *Judaism and the Race Question*. This, following the example set in other publications, would have contained an analysis of the religious and philosophical texts that have guided Israel in its relations with other ethnic groups. Such a subject seemed indicated, if only because of the attacks levelled by many anti-Semites against so-called "Jewish racism."

But it was felt that the thesis of "Jewish racism" should not be combated in the setting of anti-Semitic dialectics. Professor Léon Roth's booklet, therefore, does not deal with race. It is none the less

a valuable contribution at a time when men's minds are troubled by modern manifestations of "racism." In asking the author to give a short description of Judaism's specific contribution to world civilization, we had a double aim in view: firstly to refute the accusation of "racism" so often levelled against the Jews, by underlining what, in Judaism, is the very negation of racial exclusivism; and secondly, to record the extent of the debt humanity owes to Judaism."

This is indeed an astonishing piece of reasoning. Apparently the Editors are not concerned at all with objectivity. They do not want to know anything at all concerning whether Judaism has been *racist* or not. They are solely concerned with producing a booklet to expound that Judaism has never been *racist*. Secondly, in so far as they go beyond that point, it is to produce propaganda for the world's debt to Jewry—in other words for a species of Jewish Jingoism.

One wonders, after such a clear declaration of the objectives of UNESCO'S publication in this field of race whether there can be any value in any of their pronouncements, since they apparently are publishing not to arrive at objective truth, but merely as propagandists to put over one point of view solely—and that is the one which is aimed against what they would call *Racists*—White thinkers and others who believe that there is validity in human heredity not only in individuals but in ethnic groups—while at the same time taking care to see that Jewish history and philosophy is distorted to produce the astonishing viewpoint that Jewry has not been *racist* at all!

The racialist terminology with which the 'Old Testament is replete, and which even spills over into the New Testament, especially from the exclusiveness of St Peter, and the pen of St Paul, all of whom make it clear that non-Jews (Gentiles) only find a path to Salvation outside the Circumcision by a special Grace (in the Sacrifice and Blood of Christ), all shows a deeply ingrained nationalism and racialism which is every way as intense as that of the most benighted Afrikaaner and anything alleged against the Dutch Reformed Church in South Africa. The continued maintenance of the segregation of the Jews—by the Jews themselves—is merely the modern outcome of this racialism.

We are not attacking the Jews for this. We believe that in all ethnic groups such tendencies to isolation and segregation are natural, and in the racial sense endogamy and not exogamy is in accordance with nature. Furthermore, we believe that when such groups, be they Jews, or Greeks, hold to such views, they are not merely more in accord with nature, and truer to their traditions, but are psychologically better poised, than when they betray their nature and their inheritance.

That the Jews have shared the common human nature of all ethnic groups is to be expected, and indeed it would be unnatural had their experience in these matters of intense group loyalty, group endogamy, and resultant group pride, with a strong desire for separateness, been otherwise than it has been. It therefore seems to be absolutely deplorable that, in the name of learning and science, an attempt should be made so blatantly by UNESCO to set out propaganda to the opposite, for the subjective purpose of justifying this organisation's activities in its other publications which are blatantly to obscure any chance of an objective understanding of race, and its validity as a factor in human development and continued human relations at the present time.

It would seem impossible for any objective writer to contribute to such a series as this, and so we have sympathy with Professor Léon Roth's attempt.

In the course of his essay he tries to show that the Old Testament had a universalist conception, and he cites the case of the nations of the world having been genealogically derived from Adam. No doubt this conception may well have been that of later Jewish thought—perhaps even in Talmudic times, but it certainly could not have been earlier. For the interesting thing is that when the tribes mentioned in Genesis x are carefully analysed they do not justify the view, which was formerly held in fundamentalist times in Christianity, that the Sons of Shem are the Caucasoids, the Sons of Japhet the Yellow Races, and the Sons of Ham the Black Races, at all. An analysis shows that in fact the nations described are all more or less Caucasoid, and at the most only include the Hamitic among the sons of Ham. This fact must have been known to the Jews of the first Millennium B.C. and consequently such a genealogical table could not have led to any universalistic concepts in the brotherhood of *all* men, but only of those of the races of men of whom they were cognisant.

Indeed, the unique contribution which the Jews have made in world history is based essentially on their *apartness* rather than on any universalist tendencies in their culture, and it seems difficult to see how they could ever have made that contribution had they not been, in their own estimation, a Chosen People.

The author draws attention to the ritual washings of the Jews as having a bearing on the matter of cleanliness. This may well be so. But it should not be overlooked that Hinduism has a much more rigorous code of hygiene, by way of ritual ablutions, practised on a vastly greater scale, and from a much more ancient period of time.

R. GAYRE OF GAYRE.

TOGETHER IN BRITAIN: A CHRISTIAN HANDBOOK ON RACE RELATIONS

Church Information Office, Westminster, London, 1960. Pp. 51.
Price 3s.

Your reviewer finds it very hard to escape exasperation in reading this little book. The contrived impression of calm, Christian tolerance extends no further than the Introduction, for the initial section dealing with the concept of race, human variability and mental capacities reveals such deliberate attempts to muffle scientific findings that to an open mind this chapter is practically worthless. Biological differences in Man are grudgingly admitted as are the now well attested differences in human intelligence, but in the conclusion of the chapter the reader is fully inoculated with the notion of the importance of the "social environment" in determining human affairs. It is the shift of emphasis to suit the political dogma of the Church authorities that creates a palpable falsehood. Only a will to believe in human equality could possibly tolerate these rationalisations.

In the succeeding chapter on theology and race exists the one valid concept of the whole book, but again it is vitiated by corrupt thinking. We would have been happy to accept as a purely moral lesson a plea for charity between men of different races, but how the writers can square "all the nations and peoples gathered into the Kingdom" with the mounting tide of intolerance which accompanies negro independence throughout the world is difficult to understand. What seems to be overlooked is that the Kingdom of which Christ is a central part is clearly not at all acceptable to vast sections of the newly enfranchised millions for whom the

Anglican Church seems so anxious to set its cap. One wonders if it would not be common prudence for the Church to take care lest the traditional allegiance of White peoples be not lost in seeking to gain the support of more remote races who have so rarely shown any particular regard for religions based on charity.

The sketch of racial discrimination and prejudice which follows seeks to give the impression that biological differences in Man are not causes of racial strife. This idea is fostered to weaken the case for the biological determination of human affairs. Discriminations between kindred Caucasoid peoples are cited and accounted for by religious, economic and cultural causes without any regard to racial differences. The persecution of Syrians and Jews by the Romans and of Irish by the Anglo-Normans in particular is accounted for by religion and culture. No regard is paid to the fact that there can possibly be a biological element in these earlier examples of racial strife, and that they could spring from the self same motive as does the great racial crisis into which our world would appear to be moving —namely the natural inability of racial coexistence which is actually due to nature's laws of specification.

Thereafter the book breaks down into a miscegenist's *vade mecum*.

There is no honest effort to consider the irretrievable situation into which the advice it contains will lead if literally carried out. If the Church Assembly Board really intends people to believe that they are themselves socially responsible they must start an earnest consideration of cause and effect. The will to believe in human equality is not quite enough.

A. H.

EVOLUTION: ITS SCIENCE AND DOCTRINE

Edited by T. W. M. Cameron, Royal Society of Canada "Studia Varia" Series 4. Toronto University Press: Oxford University Press, 1960. Pp. 242. Price 40s.

This is a Canadian Symposium celebrating the Darwin Centenary. The twenty contributions cover a wide range of geological, biological, philosophical, sociological and cosmological subjects. The Editor, who is Director of the Institute of Parasitology at McGill University, shows what important conclusions can be drawn regarding the course of evolution from the relationships of animal parasites. In an article which bristles with relatively new conceptions he shows that the African ostrich and the South American rhea have the same peculiar genera of mites, lice and tapeworms and very closely related genera of nematodes. The borhyaenid wolf of South America closely resembles the Tasmanian wolf of Australia. The Australian marsupial fauna was then derived, not from Asia but from South America via Antarctica. West African primates were rafted to the Amazon in mid-Tertiary times, when that river system flowed westward into the Pacific.

These and other hypotheses are fitted together into a surprising and in many respects convincing whole.

Five other papers are palaeontological, two deal with the mode of evolution by natural selection, one with speciation in plants, another with evolution in bacteria, several with social evolution. Others are concerned with cosmology, the particles of physics, and the origin of the chemical elements. The whole comprises a fruitfully assorted dish of evolutionary problems.

R. R. G.

ADAM

By David Bolt. J. M. Dent & Sons Ltd., London, 1960. Pp. 143.
Price 15s.

This is largely an allegory—the author calls it a tone poem—based on Genesis. The writer sets out to give the story of Adam in much the same way as that of Everyman. The pith of it is that “we have yet to find an alternative to the Fall to account for his (Man’s) nature.” The fact that man is not born inherently good tends to be overlooked today by all those professing “liberal” views, and who, as thorough Lamarckians, place all the responsibility on anything rather than heredity.

The author makes Eve say that the tasting of the fruit of the tree of knowledge would make them as the angels. This is a misunderstanding of the purport of the passage—as it is clearly phallic and refers to the discovery of paternity (*the knowledge*) leading to a change over from original matriarchy to patriarchy.

RECENT ADVANCES IN HUMAN GENETICS

Edited by L. S. Penrose, F.R.S., with the assistance of Helen Lang Brown. J. & A. Churchill Ltd., London, 1960. Pp. 194. Price 27s 6d.

This book of Recent Advances will be of great use to human geneticists, and all interested in recent genetical problems will wish to consult it. Two of the eight chapters are written by the Editor. These are on Mutation and on the Genetics of growth and development of the foetus. In the latter many pathological abnormalities and their causation are considered. The chapter on the 46 human chromosomes, by Dr G. D. Harnden, is a fascinating account of the exciting discoveries of non-disjunction in man and the concomitant abnormalities, in which Dr Charles E. Ford and his colleagues have played a leading part, especially by the introduction of new methods. The original discoveries of non-disjunction were made in plants (*Oenothera*) over fifty years ago.

The cases of non-disjunction in man and woman are mostly concerned with the XY pair of sex chromosomes. Thus the Kleinfelter syndrome has 47 chromosomes, including XXY. The numbers and morphology of the chromosomes can be confirmed by cultures of the skin, bone marrow, blood and other tissues. In the many cases in which various intersex conditions are involved, the Barr sex chromatin test (a chromatin body in the resting nuclei) has been useful in determining the fundamental sex of the individual. In the chapter on Developmental sex abnormalities, Dr O. J. Miller has described and classified these conditions. In the Turner syndrome, in which webbed neck and sexual infantilism are conspicuous features of a variable syndrome, the sex chromosomes are conspicuous, but apparently not always, XO.

Many of these intersexes are mosaics with, for example, some tissues XXY and other organs XX. The many other cases of abnormal sex chromosomes pouring from the medical press of the world include XXX and XXXY and such mosaics as XXX/XO. Mongolism, which Penrose showed to be correlated with the age of the mother, is now known to have generally trisomy of one of the small chromosomes. Several cases of chromosome translocation have been discovered, now that most of the human chromosomes can be identified by their morphological size and form. The numbers of nucleoli, and their relation to satellites, are well known in many plants

and some animals. Much could be learned by further investigations of the human nucleoli.

In the chapter on Elucidation of gene order, Dr J. H. Renwick discusses the many questions of genetic linkage and recognises three well-established cases of autosomal linkage. The blood groups serve as markers for nine different chromosomes. Hairy ears remain as the only known gene in the Y-chromosome, whereas a long list of genes in the X are more or less proved, but partial sex-linkage has been discarded.

In the chapter on the abnormal haemoglobins, Dr P. S. Gerald summarizes the discoveries in this very recent field in which the alphabetical series already reaches down to Q, besides "Bart's," "Hopkins" and others; but he omits reference to the important geographic distribution of these mutations. The sequence of amino acids in haemoglobins A, C and S throws important light on how these gene mutations arise.

Chapter 6, by Dr Sarah B. Holt, on the inheritance of dermal ridge patterns, deals mainly with the total ridge count and various lines of evidence regarding its inheritance. The final chapter, on statistical methods and theory, by Dr C. A. B. Smith, is a treatment of the effects of selection, twin diagnosis, sampling problems, estimation of genetic ratios, gene frequency estimation and similar problems of the practical statistician.

Every active worker in human genetics will wish to have this book.

R. R. G.

BEHAVIOUR GENETICS

By John L. Fuller and W. Robert Thompson. John Wiley & Sons, Inc., London and New York, 1960. Pp. 396, numerous tables and graphs. Price 72s: \$9.00.

This book is the joint effort of a biologist and a psychologist and is concerned with the field of research in heredity and behaviour.

The book is divided into three parts—first, an introduction to the principles of genetics for the general reader; second, a review of the literature in animal and human studies; and third, the synthesis of current knowledge.

The authors develop the view that genes may be regarded as variables affecting behaviour.

Their conclusion is: "A working model for the gene-behavioural character relationship emphasizes the non-congruence of the two levels of description. Non-congruence implies multiple-factor control of psychological traits and the existence of complex gene interactions in the development of phenotypes. In spite of this complexity the evidence for lawful genetic effects upon behaviour has been amply demonstrated. Further analysis of the gene-character relationship may be possible from experiments in which genotypes are manipulated and phenotypic effects measured."

Few will quarrel with this conclusion, except that extremist school of environmentalists who appear to be determined at any cost to minimise the effect of heredity in favour of social and physical environment. Perhaps their antagonism to heredity is that it is the one great obstacle to the "social engineering" of mankind into any particular ideology. So frequently has Lamarckism been discredited that there must be some subjective reason for the persistent attempt to establish it.

The authors are on sound ground when they write—"Yet the denial of any importance to heredity rests upon the assumption that human behaviour has been emancipated from any connection with its biological

substratum. Belief in such a discontinuity must rest on faith rather than scientific evidence" (p. 326).

This is altogether a really useful work based upon considerable data.

R. G. of G.

TROPICAL HOUSES: A GUIDE TO THEIR DESIGN

By David Oakley. B. T. Batsford, London, 1961. Pp. 272, many plates and figures. Price 42s.

Although primarily a very competent and valuable architectural work, it has some wider interest, for instance in the distribution of differing forms of housing to meet climatic conditions varying widely from those of the temperate regions of the world. The author discusses, therefore, the climatic elements, and radiation and insolation dependent thereon, and the various climatic regions within the hot regions of the world, as well as hurricane, earthquake and other factors involved. It is a reminder that even modern man, with all his advanced technology, is still bound in no small measure by the limitations imposed by nature on his distribution.

RACE AND REASON: A YANKEE VIEW

By Carleton Putnam. Public Affairs Press, Washington, D.C., 1961. Pp. 125. Price \$3.25.

The author is already well known for his biography of Theodore Roosevelt and other works. His training was a rare combination of science and history at Princeton, followed by a law degree at Columbia University. Born in New England, with distinguished ancestors in the early days of the Republic, he lived for many years in the South, as president of Southern Air Lines. Having retired at an early age he now devotes himself to the vital problems of his country.

Putnam's experience of science, law and practical affairs places him in a unique position to discuss the American Negro problem as it has been exacerbated by the Warren decision of the U.S. Supreme Court in 1954. This decision, which suddenly reversed the arrangement for separate schools entered into nearly a century ago, after the Civil War, has been followed by persistent attempts to force school integration on the South, against their opposition on the grounds that separate schools are better for both races.

It seems strange that in a democratic country such a constitutional change could be introduced by a committee of nine judges without any discussion whatever of the merits or demerits of the proposals by Congress. Legal opinion throughout the country has spoken in no uncertain way against the decision, and it seems that sooner or later it may be repealed, as the Prohibition Amendment of the Constitution was reversed after 14 years. Under the Constitution each State has control over its own school system, so it seems even stranger that in the Southern States, where a third of the population is Negro, an effort should be made to prevent such State control after millions had been spent to provide equally good schools for Negro and White.

Mr Putnam addresses himself rightly not to the legal but to the moral and scientific (anthropological) aspects of this question. He shows how American anthropologists were responsible for introducing equalitarianism

into anthropology, ignoring the hereditary differences between races, and even among individuals, until the uninstructed public were gradually misled. Equality of opportunity, which everyone supports, was replaced by a doctrine of genetic and social equality, which is something quite different. The steps by which this condition was reached are explained in Chapter II (The Hidden Issue).

The rest of the book is devoted to answering the many specific questions which arose in the author's voluminous correspondence. This correspondence resulted from his publication of letters on the subject to President Eisenhower and later to the Attorney General. The author, like Southerners generally, shows more friendliness and real understanding of the Negro than is generally found in the North, where relatively few are present except in the cities. Every person interested in races will gain much insight by a perusal of this book, which offers a straightforward solution of the dilemma.

The part which the school of social anthropologists dominated by the late Professor Franz Boas has played in giving apparent scientific sanction to these political developments based upon egalitarianism is discussed, and this should be carefully read and studied by all.

R. R. G.
R. G. of G.

CORSO DI SOCIOLOGIA

By Corrado Gini. Edizioni Ricerche, Rome, 1957. Pp. 739.

The present volume is an expansion of the author's original *Appunti di Sociologia* and commends itself to the reader for a multitude of reasons, only a few of which can be touched upon here.

The principal part of the text devotes itself to general sociology, the first part of the treatment considering those accounts which attempt to explain social phenomena primarily or exclusively as a function of one given factor: geography, anthropology, economy and so forth. The second major division within the sphere of general sociology is devoted to an exposition of general sociological theoretical devices, conceptions employed in the interpretation of social dynamics (mechanistic, organismic and evolutionary concepts).

The second subdivision of the general text is devoted to "The Elements of Colonial Sociology," a subject of critical importance in these times of rapid political change.

Appended to the text are essays of specialized sociological interest. These include discussions of great insight concerning feral humans and the entire process of socialization, the origins of the human species, animal sociology, ludology and an essay on the psychology of labor and accumulation.

The entire text is characterized by an ease and fluency matched only rarely in professional texts. The discussions are conducted with an intellectual candor perhaps unique in the West. Similar German texts tend to be self-consciously conservative. French and English language professional literature seems infused with a sociopolitical inspiration which bespeaks a conscious or unconscious academic conformity. Even Italy has, of late, given evidence of adjusting to prevailing orientations.

Professor Gini's work is, on the other hand, singularly objective. Considerable space is devoted to such controversial topics as the "Aryan" and "Nordic" hypotheses (pp. 124-146) and finally to "Racism."

In a candid and forthright analysis we are told that "Racism, either as a mental disposition or a political directive, corresponds to an innate human

exigency, because it has had more or less veiled manifestations in all times and places."

"Racism" is understood as a generic term covering behavior which fosters the formation of endogamous isolates, inbreeding communities the extent of which is determined by a "common consciousness of spiritual unity, the product of a common historic-cultural patrimony and of a faith in a common destiny" (p. 152).

These isolates constitute the nuclei of races in formation. An anthropological race is the result of protracted social and geographic isolation. The disposition to preferred association (a "racist" mentality) insures the continuity of a given genetic patrimony, reproductive unions being contracted within a "marriage circle" of limited compass. Protracted natural and artificial selection adapt the nascent race to a given natural and social environment.

"Race" is understood to be the end result of an historic process characterized by the disposition of individuals to identify with a select number of their own species to the exclusion of others. Recognition of this fact is of considerable importance in understanding the nature of contemporary inter-racial, interethnic, international and intergroup contacts. The nature and genesis of this explicit preference of kind (what Franklin Giddings called the "consciousness of kind") is the subject of some considerable discussion in the chapter on sociological specialization: *Homo socialis et homo dissociatus*.

Feral children raised by social animals forever display a decided preference for animals of that and related species (pp. 468 ff.) rather than their "natural," human congeners. The rôle of habit in fixing this preference for "kind" is discussed—a consideration of some importance for societies where systematic interracial contact is the case. Children raised in a normal monogamous environment would seem, more or less consistently, and throughout life, to favor, as a consequence of persistent exposure during their formative years to individuals of a given type, that type to the exclusion of others. This disposition seems fixed at an incredibly early age. Goodman's studies (*Race Awareness in Young Children*, Cambridge, 1952) indicate that nursery children manifest a well-established racial preference. Subsequent attempts to reduce this "prejudice" through education have not met with any notable success.

Professor Gini's theory of race formation, and the discussion of the psychic dispositions which sustain social isolation, are suggestive for any attempt to understand intergroup contacts, the difficulties of assimilating into the organic body of a given society members of ethnic and racial groups possessed of a high social visibility. The difficulties attendant upon these attempts are illustrated with tragic emphasis in South Africa, India and North and South America (cf. this reviewer's article, "On the Nature of Prejudice," *Eugenics Review*, January, 1961).

The discussion of "social metabolism" (pp. 170 ff.) is of singular importance. Here problems of differential fertility and its influence upon the body politic are explored with candor and detachment. In a society of mixed ethnic origin, where the upper classes are composed of a distinct anthropological type, a general levelling down to the type of the lower is the consequence of the greater fertility of the subordinate orders (p 172). The hereditary traits of the lower classes, be they psychic or physical, prevail. The necessary consequence is generally a systematic predominance of the cultural and political dispositions of the lower, but more fecund, orders.

Professor Gini elsewhere discusses, in more detail, the significance of

this phenomenon (cf. C. Gini, *I fattori demografici dell'evoluzione delle nazioni*, Rome, 1912, and *Nascita, evoluzione e morte delle nazioni*, Rome, 1930), while Professor Ilse Schwidetzky analyses its importance in the historical and cultural evolution and decline of peoples (*Das Problem des Voelkertodes*, Stuttgart, 1954).

The limitations of space preclude any possibility of an exhaustive treatment of Professor Gini's text here. What must be said, however, is that the text recommends itself as a forceful and careful consideration of some of the most critical problems of our time. As such it is hoped that the complete text, or at least significant sections, will appear in English in the near future.

A. JAMES GREGOR.

WONDERS OF ANTIQUITY

By Leonard Cottrell. Longmans, London, 1960. Pp. 162, 21 illustrations. Price 21s.

This is an account of the Seven Wonders of the World. The Great Pyramid of Gizeh is described from observation, and the other six Wonders, all of which have now disappeared, are discussed from the accounts of ancient writers. In addition, the author selects seven other monuments which still exist, such as the Palace of Minos in Crete, the Valley of the Kings in Egypt, Palmyra in Syria, the Dome of the Rock in Jerusalem, built on the site of Solomon's Temple, the Crusaders' Castle Karak of the Knights in the Lebanon, and Delphi in northern Greece.

In this interesting, though popularly written, work the author combines an exposition of archaeology with history. He does well to draw attention to the fact that the Moslems enjoyed good and even generous government under the Christian Knights in their territories in Palestine and Syria, despite many efforts which are made today by writers to infer everything to the discredit of the European nobles who attempted to stem the invasion of Islam into territories which until then were part of the Western world. He quotes the complaint of one Moslem writer that "the Moslems . . . live in great well-being under the Franks [the Europeans]. Allah preserve us from such temptation! The Franks allow them to keep half of the harvest and limit themselves to a poll-tax of 1 dinar and 5 kirates . . . The Moslems are proprietors of their own houses and run them as they wish . . . The majority of them cannot resist comparing their lot with that of their brothers under Moslem rule—a lot which is the reverse of agreeable or prosperous."

THE CONCISE ENCYCLOPAEDIA OF ARCHAEOLOGY

Edited by Leonard Cottrell, Hutchinson & Co. Ltd., London, 1960. Pp. 512, many half-tone plates, diagrams, maps and colour illustrations. Price 50s.

This is one of the really first class works being produced today with a superbly high standard of printing and at a very low price considering the value being provided. It is an indispensable compilation not only for students and research workers, but also for the general reader. For instance, the archaeologist solely interested in the cultural field of artefacts, as distinct from the palaeontologist, is not necessarily expected to know what the Simian shelf is—but he will find in this useful and easily read encyclo-

paedia the clear statement that it is a thickening of the lower jaw to which the tongue is attached, and that it is found in apes and monkeys, but not in man. The palaeontologist will derive much assistance from the brief and clear descriptions of cultural material and terms which will be useful for him to know at some time or another when his field of studies may overlap the work of the cultural archaeologist.

HISTORY OF THE PRIMATES

Seventh Edition. By Sir Wilfrid Le Gros Clark. British Museum (Natural History), 1960. Pp. 119, numerous illustrations. Price 5s.

This well known Handbook of the Natural History Museum, now in its seventh edition, is a masterly account of all the known Primates, fossil and living, which Sir Wilfrid is so well fitted to write by his first-hand experiences and researches. The treatment throughout is phylogenetic, bringing all the forms under review.

The last half of the book is devoted more particularly to the more human line of descent beginning with the South African Australopithecines, although recent discoveries among earlier, Miocene and Pliocene, forms are also described. After a careful analysis of this group, the conclusion is reached that "the anatomical characters of the *Australopithecinae* conform very closely to theoretical postulates for an intermediate stage of human evolution, which had been primarily based on the indirect evidence of comparative anatomy." In other words, after the most recent discoveries, this group appears to be in the direct line of human ancestry. Moreover, although so remote from modern man, they apparently fashioned crude stone tools and used the long bones of animals as weapons against the baboons. In stature they were about the size of the modern pygmies.

The present edition is very up-to-date, having new information on the evolution of the lemurs, on the Oligocene *Parapithecus*, and on *Oreopithecus*. Neandertal man is considered to be an aberrant species which developed contemporaneously with modern man and ended in extinction.

The Florisbad cranium, which I examined in Bloemfontein Museum in 1955, is generally regarded as belonging to the Neandertal type. Placing it with the Fontéchevade skull (p. 97) appears to be a slip.

It would be difficult to imagine a more complete and satisfactory introduction to the Primates than this small volume. The numerous drawings are by Maurice Wilson. A list of literature is given, to which the author might have added more of his own contributions. An index provides a convenient means of reference.

R. R. G.

WEST INDIAN IMMIGRATION

By G. C. L. Bertram, with a preface by Sir Charles Darwin. The Eugenics Society. 69 Eccleston Square, London, S.W.1, 1958. Pp. 24. Price 1s 6d.

All who are interested in the problem of the impact of one racial group upon another would do well to examine this extremely useful paper.

Many will be interested in one of the statements of the author where he says:

"This Broadsheet has attempted to describe the realities of the situation today in these islands and elsewhere in the world. Yet, in the terms

of the objective set out above, most must surely find themselves unable to feel convinced that there are positive advantages to be gained from an increased mingling of African and European genes (that is to say "blood" in popular parlance) within the population of the United Kingdom. Indeed, many are convinced already that the disadvantages of large scale mingling are heavy. Quite apart from the absence of any genetic advantages likely to accrue from this miscegenation, the growth of a host of social disadvantages and tensions would seem highly probable.

It is to be hoped that, as education and understanding gradually are spread, individuals of widely differing genetic constitutions will feel able to live in propinquity, in harmony, and in friendly esteem, but that they will mutually appreciate that in general their mating and reproduction seems to lead to more of trouble than of long-term happiness."

The whole approach by Mr Bertram is eminently sensible, and a complete change from that of many other writers in this field, who tend to be motivated by emotional considerations and *a priori* assumptions based upon ethical or political foundations.

R. GAYRE OF GAYRE.

THE LIVING RACES OF THE SAHARA DESERT

By L. Cabot Briggs. *Papers of the Peabody Museum, Harvard University, Vol. 28, No. 2, 1958. Pp. 217, 74 figures.*

Geographically the Sahara extends from Egypt westwards to the Atlantic. Its eastern half extends from a hilly coastal strip in Libya southwards to the Niger Bend, but in the western half it begins in the steppe country south of the Atlas mountains. This vast area, by far the largest and the most extreme desert in the world, with an area of some 3,000,000 square miles, has a population of roughly 2,500,000. During the pluvial periods of the Pleistocene it must have had a savannah flora with a fauna of large animals as well as a relatively dense human population which extended into the Neolithic. Stone implements of all kinds are found often in abundance, as well as fish-hooks and barbed harpoons showing a former well-watered country. This condition lasted until perhaps 5000 years ago. Since then, increasing aridity has pressed the decreasing inhabitants into remote oases and diminishing grazing areas, connected mainly by camel caravans.

The author discusses the Garamantes of classical historians, which may be represented by the modern Tuareg. He also dips into prehistoric North Africa, *Atlanthropus* and Neandertal man, as well as the succession of Aterian, Mouillian and finally Capsian stone industries. This, as well as a considerable geographic setting, serves as an introduction to the modern populations, sedentary and nomadic. The people described include the Haratin, Teda, Tuareg, Moors, Zenata, Mzabites, Jews and Chaamba, with outlines of their anthropological characters. The first identifiable inhabitants were African Mediterranean Whites who came from the Near East and spread not only along the North African coast but also south to Kenya, and others as far as the mountains of Tibesti and Ahaggar. These migrations may have begun as early as 16,000 years ago, reaching western Barbary perhaps 7000 years later. They were the major ancestral element of the Berbers.

Early in Neolithic times, probably 6000 years ago, Negroes invaded the Sahara, perhaps from the Upper Nile, moving westward across the Sudan. They, with some proto-Berber accretions, may be ancestral to the Teda. Other Negro bands moved northwards into the Sahara, mingling with proto-Berbers to form the modern Haratin. As dryness progressively increased, fishing and cattle raising ceased and the Haratin became sedentary gardeners. The Teda, Tuareg and proto-Moors remained nomadic and ruled the Desert (although somewhat restricted by the Arab invasions) until recent times.

Half a century ago an ancient proto-Berber substratum existed in the North and possibly in the Southeast of the Sahara, while in the South the substratum was Negroid. This was overlaid by nomadic Berber outcrops in mountain refuge areas, with small scattered sedentary communities. The later Arab immigrants have mingled to some extent with both the nomadic Berbers and the sedentary Negroids.

R. R. G.

AFRICA'S PLACE IN THE EMERGENCE OF CIVILISATION

By Raymond A. Dart. South African Broadcasting Corporation, Johannesburg. Pp. 96, 7 maps and diagrams, and many illustrations.

This is the published Van Riebeeck Lecture given by Professor Dart.

He notes that, as one passes up the east coast of Africa, the skulls become abnormally broad and high and this he attributes to Western Asiatic or Armanoid origins, while up the western side the skulls are long, yet abnormally high, and this he attributes to European or Nordic. A few of these European and Asiatic skull types are also found in the southern-most parts of Africa, such as among the Hottentots and Bushmen, and so he considers that the genes received from their forefathers must have come across the continent from Europe and Asia respectively, or else reached the southern coasts by sea a long time before Vasco da Gama. In all this, he seems to be on very good grounds, in our opinion, and we do not think that these elements are to be explained by local mutations. Professor Dart also draws attention to his very considerable work on the settlement of Ancient Egypt, and proves that the Ancient Egyptians came essentially from Europe and not Asia as Professor Elliot Smith and others had thought. The first invasion in his opinion was purely Nordic in type and must have come exclusively from Europe. The subsequent three were of mixed type, the second one being still mainly Nordic, but it included a certain amount of Armanoid, while the third had still more Armanoids, and the fourth an increasing contingent of that strain. The first Nordic invasion of Egypt resulted in the neolithic civilisation about 2000 years before the building of the Pyramids.

This lecture is an altogether stimulating and valuable contribution to ethnology.

R. GAYRE OF GAYRE.

Books Received

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By L. C. Dunn. Harvard University Press; Oxford University Press, London, 1959. Pp. 157, 11 figures. Price 20s.

DER BEGABUNGSSCHWUND IN EUROPA

By Ludwig Winter. Published by Verlag Hohe Warte, Franz von Bebenburg, Pähl (Obb), Germany, 1959. Pp. 146.

JORDENS MANNISKORASER OCH FOLKSTAMMAR

By Bertil Lundman. Published by Nybloms Förlag, Uppsala, Sweden, 1943. Pp. 303, 22 figures.

THE LIGHT CONTINENT

By U. R. Ehrenfels, Ph.D. (Vienna), Professor and Head of the Department of Anthropology, University of Madras. Asia Publishing House, London, 1960. Pp. 192, 12 plates, 10 figures. Price 30s.

ALNWICK, NORTHUMBERLAND: A STUDY IN TOWN-PLAN ANALYSIS

By M. R. G. Conzen, M.A. Published by the Institute of British Geographers.

PROBLEMS OF THE PEOPLES OF THE USSR: SPECIAL ISSUE ON SOVIET COLONIALISM

Published by the League for the Liberation of the Peoples of the USSR, Munich, 1961. Price 3s.

OSIS AND SPASTIC DISORDERS: A CLINICAL AND GENETIC STUDY OLIGOPHRENIA IN COMBINATION WITH CONGENITAL ICHTHY-

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